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October 21, 2002, 09:47:36; Search time 25 Seconds (without alignments) 207.594 Million cell updates/sec
                                                                                                                                                                                                                                                                                                    562222
GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                           US-09-720-828A-4
147
1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                      562222 seqs, 172994929 residues
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Maximum Match 100%
Listing first 45 summaries
                                                              OM protein - protein search, using sw model
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sp_rodent:*
sp_vius:*
sp_vius:*
sp_vertebrate:*
sp_rofius:*
sp_rofius:*
sp_arctrlap:*
sp_archeap:*
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Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                            SPTREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_anmman:*
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sp_organelle:*
sp_phage:*
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Maximum DB seq length: 200000000
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9:
10:
11:
13:
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Perfect score:
Sequence:
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                                                                                                                                                                                                                                                                        Searched:
                                                                                                  Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Q9c001 homo sapien	papic	_		Q9xt83 halichoerus	Q9bg74 canis famil	Q9tv12 canis famil	Q9mzr9 oryctolagus	Q923t2 sigmodon hi	070329 mesocricetu	Q9ucf5 homo sapien	Q9xt84 delphinapte	088210 cavia porce	Q9gjr4 ovis aries		Q95mp4 ovis aries
a ib	1 090001	5 Q9XS38	1 013169	1 Q16334	5 Q9XT83	5 Q9BG74	5 Q9TV12	5 Q9MZR9	11 Q923T2	11 070329	4 Q9UCF5	5 Q9XT84	11 088210	5 Q9GJR4	5 Q9GL83	5 Q95MP4
% Query Match Length DB	150	154	156	139	155 (	99	79	133	155	138	73	154	152	69	155	155
% Query Match	100.0	98.6	92.2	91.2	73.8	73.1	72.8	72.1	72.1	70.1	61.9	56.5	55.8	53.7	53.7	53.7
Score	147	145	135.5	134	108.5	107.5	107	106	106	103	91	83	82	79	79	79
Result No.		5	ĸ	4	2	9	7	80	6	10	11	12	13	14	15	16

RESULT 2

Q95kp3 bubbalus bub Q9bg73 canis famil P70291 mus musculu Q9qus8 mus musculu P70293 mus musculu P70293 mus musculu P70293 mus musculu P70293 mus musculu Q29138 trichechus Q91465 tribzobium m Q91055 strongyloce P71599 mycobacteri O60244 homo sapien Q9105 strongyloce P71599 mycobacteri O60248 homo sapien Q91065 clisterio chol Q90661 caenorhabdi C20417 caenorhabdi C69192 listeria mo Q92840 listeria mo Q92840 listeria mo Q92840 listeria mo Q9284 sulfolobus Q96m56 vibrio chol C6011 borrelia bu Q99xt6 staphylococ Q9uu99 schizosacch Q99xt6 staphylococ Q9uu99 schizosacch Q99xt6 staphylococ	Eutel Homo	Length 150; Indels 0; Gaps 0;
6 Q95KP3 6 Q9BG73 11 P70291 11 Q90USB 11 P70294 11 P70294 11 P70294 11 P70294 10 Q93USB 10 Q93USB 10 Q93USB 10 Q93USB 11 Q91DM2 12 Q91DM2 12 Q91DM2 13 Q91CB 16 Q928VQ 16 Q928VQ 16 Q928VQ 16 Q928VQ 16 Q928VQ 17 Q96KX4 16 Q92WB5 17 Q96KX4 16 Q99WB5 17 Q96KX4 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 16 Q99WB5 17 Q96KX4 18 Q99WB5 19 Q9WB5 19 Q90WB5 10 Q92WB5 11 Q96WB5 11 Q96WB5 11 Q96WB5 12 Q90WB5 13 Q96WB5 14 Q90WB5 15 Q90WB5 16 Q99WB5 17 Q96WB5 17 Q96WB5 18 Q99WB5 18 Q99WB5 19 Q90WB5 19 Q90WB5 19 Q90WB5 10 Q90WB5 10 Q90WB5 10 Q90WB5 10 Q90WB5 11 Q90WB5 11 Q90WB5 11 Q90WB5 12 Q90WB5 14 Q90WB5 15 Q90WB5 16 Q90WB5 17 Q90WB5 17 Q90WB5 18 Q90WB5	S AA. ion update) ion update; Vertebrate ii Hominidi iiina A.;	147; DB 4; No. 1.4e-14; matches 0; 30
17 79 53.7 155 18 69 46.9 39 20 69 46.9 150 21 62.5 45.6 159 22 62.5 42.5 159 24 62.5 42.5 159 25 62.5 42.5 159 26 35.4 737 27 52 35.4 737 28 50 34.0 1454 30 34.0 1454 31 49 33.3 140 32 49 33.3 543 34 48 5 33.0 240 46 32.7 441 36 48 32.7 441 37 48 32.7 441 38 47.5 32.0 398 47 32.0 1058 48 32.7 441 41 47 32.0 1058 45 32.0 1657	PRELIMI  D1 (TrEMBL 01	Query Match 100.0%; Score Best Local Similarity 100.0%; Pred. Matches 30; Conservative 0; Miss Oy 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN Db 21 APTSSSTKKTQLQLEHLLLDLQMILNGINN

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Gaps

3

Indels

DB 4; Length 156;

us-09-720-828a-4.rspt

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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalla, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-9239150; PubMed-7722480;
Elzenberg O., Faber-Elman A., Lotan M., Schwartz M.;
J. Naurochem G. 41928-1936 (1995).
J. Naurochem G. 41928-1936 (1995).
J. Naurochem G. 41928-1936 (1995).
HSSP; P01385; JAN.
InterPro; IPR00775; Interleukin-2.
PFIMIS; PR00255; INTERLEUKIN2.
PRODMIS; PR00255; Interleukin-2; I.
                                                      NTERLEUKIN_2; 1.
18002 MW; 8E0452D43B336389 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NON_TER 1 1 - SEQUENCE 139 AA; 15986 MW; 731FBA406D0C63C5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                              Score 135.5; DB 4 Pred. No. 8.1e-13;
                                                                                                                                                                                                                                                                                                                                                 139 AA
                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                1 APISSS---TKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                      21 APTSSSTKKTKKTQLQLEHLLLDLQMILNGINN 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
           ProDom; PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1. PROSITE; PS00024; INTERLEUKIN_2; 1. SEQUENCE 156 AA; 18002 MM; 8E04
                                                                                                                                                                                                                                                                                                                                                 PRT;
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                                                                                                            92.2%;
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01-NOV-1996 (TrEMBLrel. 01,
01-OCT-2001 (TrEMBLrel. 18,
IL-2 PROTEIN (FRAGMENT),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 93.3%
                                                                                                                                                       30; Conservative
                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human)
                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID-9711;
                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                        016334
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                                                                                                                                                       Matches
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Q9XT83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xu D., Wu Y., Chen J., Yu L., Zhong M., Hui Y., Qu H.;
"Expression of human IL-2 from gene transferred mouse melanoma cells and its effect on the growth of mouse melanoma.";
Chung-Hua Min Kuo Wei Sheng Wu Chi Mien I Hsueh Tsa Chih
                                                                                                                                                                                                                                                                                                                                                                          Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A., Moreno A., Patarroyo M.E.;
                                                                                                                                                                                                    Actus nigricers (black-headed night monkey), and
Actus vociferans (noisy night monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutherla; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 154;
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                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases EMBL; U88365, AAD41538.1; -. EMBL; U88364, AAD41538.1; -. EMBL; U88364, AAD41535.1; -. EMBL; U88365, AAD41535.1; -. EMBL; U88362, AAD41536.1; -. EMBL; U88362, AAD41536.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xu L.;
Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
EMBL; U25676; AAA70092.1; -.
HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; I.
SRO044; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17675 MW; AB752ABBADA96469 CRC64;
                                                                                                                                                                  lemurinus (Northern gray.necked night monkey),
nancymaae (Owl monkey),
                                                                                   (TrEMBLrel. 12, Last sequence update) (TrEMBLrel. 18, Last annotation update)
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98.6%; Score 145; DB 6; L
96.7%; Pred. No. 2.9e-14;
                        154 AA.
                                                                                                                                                                                                                                                                                        Cercopithecinae; Papio.
NCBI_TaxID-9557, 43147, 37293, 57175, 57176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             156 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21 APTSSSTKKTQLQLEHLLLDLQMLLNGINN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                             (TrEMBLrel. 12, Created) (TrEMBLrel. 12, Last seq.
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                        PRT;
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InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                            Papio hamadryas (Hamadryas baboon),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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01,
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Matches 29; Conservative
                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
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01-NOV-1996 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
INTERLEUKIN 2.
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SEQUENCE FROM N.A.
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                                                          01-NOV-1999
01-NOV-1999
01-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                      09x338;
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                    95X50
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988X60
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                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Halichoerus grypus (Gray seal).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Halichoerus.
                                                                                     ö
                                  Length 139;
                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
INTERLEGIKIN 2.
Score 134; DB 4; LF
Pred. No. 1.2e-12;
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                                                                                0; Mismatches
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Gaps

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[1]
TIGSUBACE FROM N.A.
TIGSUBACSDLEEN, LYMPH NODE;
MEDLINE=20304414; PubMed=10843729;
MEDLINE=20304414; PubMed=10843729;
MEDLINE=20304414; PubMed=10843729;
MEDLINE=20304414; PubMed=10841, Hardy C.M., Kerr P.J.;
The complete cond because B.H., Hardy C.M., Kerr P.J.;
The complete cond sequences of II.-2, IL.-4, IL.-6 and IL.-10 from the European rabbit (oryctolagus cuniculus).";
Cytckine 12.1555-565(2000).
Cytckine 12.1555-565(2000).
EMBL; ARF86652.1; -.
FRSE, ... The rest of the re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-2001 (TIEMBLEEL 19, Created)
01-DEC-2001 (TIEMBLEEL 19, Last sequence update)
01-DEC-2001 (TIEMBLEEL 19, Last annotation update)
1NTERLEUKIN 2.
Slymodon hispidus (hispid cotton rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 133;
                                                                                                                                                                                                                                                                                           DB 6; Length 79;
                                                                                                                                                                                                                                                                                                                                  2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3; Indels
  "Cloning and sequencing of canine IL-2.";
Submitted (SPP-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF091131; AAD46989.1; -.
HSSP; P01585; 11RL.
InterPro: 1PR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
Procom; P0003649; Interleukin-2; 1.
SMART: SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interport IPR000779; Interleukin-2.
Pram. PP00715; 112; 1.
Probon; PP003169; Interleukin-2; 1.
SMART; SM00189; ILL2; 1.
PROSITE; PS000424; INTERLEUKIN-2; 1.
PROGINE: 133 AA; 14748 MM; 2054758C190B5655 CRC64;
                                                                                                                                                                                                             01-OCT-2000 (TERMELTEL 15, Last sequence update) 01-DEC-2001 (TERMELTEL 19, Last annotation update) INTERLEUKIN 2 VARIANT IL2DELTA2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72.1%; Score 106; DB 6; illarity 72.4%; Pred. No. 2.2e-08; Conservative 5; Mismatches 3;
                                                                                                                                                                                                                                                                                         72.8%; Score 107; DB 6; 71.4%; Pred. No. 9e-09; iive 6; Mismatches
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(TrEMBLrel. 15, Last sequ
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                                                                                                                                                                                                                                                                                                             Best Local Similarity 71.4%;
Matches 20; Conservative
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Matches 21; Conserv
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01-0CT-2000
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2010 (TrEMBLrel. 18, Last sequence update)
01-CT-2001 (TrEMBLRel. 18, Last annotation update)
INPERLEGIZIN-2 (FRAGMENT).
Canis familiaris (Dog).
Eukaryota; Metazoa: Chordata: Craniata; Vertebrata; Euteleostomi; Mammalia; Eutharia; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-UNN-2001 (TrEMBLrel. 17, Created)
01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
01-DEC-3001 (TrEMBLROL. 19, Last annotation update)
Canis familiaris (Dog).
Canis familiaris (Dog).
Bukaryota; Metazoa; Chordata: Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Carnivora; Fissipedia; Canidae; Canis.
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Pred. No. 6.3e-09;
6; Mismatches 2; Indels 1
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SEQUENCE FROM N.A.
German A.J., Helps C.R., Harley R., Hall E.J., Day M.J.;
                                                                                                                                                                                                                                                                         Indels
Vet. Immunol. Immunopathol. 67:385-394(1999).
EMSI, AR072871, AAD40848.1; -. EMSI, POL585; JINK.
InterPro. PRO00079; Interleukin-2.
Fram. PRO015; IL12; IL.
FRONDS: FLOSS, IL2; IL.
FRODOM; PRO03649; ILTERLEUKIN2.
PRODOM; PRO0184; IL2; I.
SAMET; SMO0189; IL2; I.
SEQUENCE 155 AA; 17860 MM; FIBF449AC672241A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE 66 AA; 7389 MW; 22A893F79DA2AE47 CRC64;
                                                                                                                                                                                                                             Query Match 73.8%; Score 108.5; DB Best Local Similarity 74.2%; Pred. No. 1e-08; Matches 23; Conservative 5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                          66 AA.
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Best Local Similarity 71.0%;
Matches 22; Conservative
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09TV12;
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09BG74;
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MEDLINE-99221046; PubMed-10206205; St-Laurent G., Bellyveau C., Archambault D.; Medicular Cloning and phylogenetic analysis of beluga whale [Delphinapterus leucas) and grey seal (Halichoerus grypus) interleukin
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088210 08.
088210 0.
1-NOV-1998 (TIEMBLEE). 08, Created)
01-NOV-1998 (TIEMBLEE). 08, Last sequence update)
01-OCT-2001 (TIEMBLEE). 18, Last annotation update)
1NTERISKIN 2 PRECURSOR.
Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystricognathi; Cavildae; Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Delphinapterus leucas (Beluga whale).
Bukaryota, Mereazoa, Chordata, Craniata, Vertebrata; Buteleostom1;
Mammalia; Eutheria, Cetartiodactyla; Cetacea, Odontoceti;
Monodontidae, Delphinapterus.
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                                             MEDLINE-93289963; PubMed-8512072;
Mullner S., Karbe-Thonges B., Tripler D.;
"Charge heterogeneity of insulin fusion proteins expressed :
Escherichia coli is not due to proteolytic degradation.";
Anal. Biochem. 210.366-373(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 154;
                                                                                                                                               61.9%; Score 91; DB 4; Length 23; 90.5%; Pred; No. 7.1e-07; uismatches 2; Indels
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
INTERLEUKIN 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 56.5%; Score 83; DB 6; Lei
Best Local Similarity 56.7%; Pred. No. 7.9e-05;
Matches 17; Conservative 6; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vet. Immunol. Immunopathol. 67:385-394(1999).
EMBL; AF072870; AAD40847.1; --
HSSP: POLS85; 31NK.
FIGHEPRO. IPR00779; Interleukin-2.
Pfam: PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                            154 AA
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ProDom; PD001869; Interleukin-2; 1.
SEQUENT; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17652 MW; 42881
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hes 19; Conserv
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SEQUENCE FROM N.A.
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 NCBI_TaxID-9606;
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Matches
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                                          Dernell M.R., Pletneva L.M., Langley R.J., Blanco J.C., Prince G.A., "Cloning, expression and purification of cotton rat IL-2."; Submitted (JUL-2021) to the EMBL/GenBank/DDBJ databases. EMBL; AF398549; AAK94012.1; -- SEQUENCE 155 AA; 17627 MW; ACADEA865E993291 CRC64;
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WEBLINE-SPICEN:
WEBLINE-SPICEN:
Webly PP-G. Tryon V.V., Chandrasekar B., Freeman G.L.;
Welby PP-G., Tryon V.V., Chandrasekar B., Freeman G.L.;
"Cloning of Syrian hamster (Mesocricetus auratus) cytokine cDNAs and analysis of cytokine mRNA expression in experimental visceral leishmaniasis.";
Infect. Immun. 66:2135-2142(1998).
EMBL; AF046212; AAG40097.1;
InterPro; IPR000779; Interleukin-2.
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01-UNY-2000 (TERBELE). 14, Last annotation update)
01-UNY-2000 (TERBELE). 14, Last annotation update)
HOME Sapiens (Human).
BURATOGIS (Human).
BURATOGIS (Human).
Mammalia: Butheria: Primates; Catarihin; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
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                                                                                                                                                            / Match 72.1%; Score 106; DB 11; Length 155; Local Similarity 73.3%; Pred. No. 2.5e-08; Local Scorestvative 3; Mismatches 5; Indels nes 22; Conservative 3; Mismatches 5; Indels
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                                                                                                                                                                                                                                                                                                                                                                        01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-AUG-1998 (TrEMBLrel. 18, Last annotation update)
INTERLENTING (FRAGMENT).
Mesocricetus auratus (Golden hamster).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'Match 70.1%; Score 103; DB 11; I Local Similarity 73.3%; Pred. No. 6.4e-08; Nes 22; Conservative 2; Mismatches 6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
Probom; P0003649; Interleukin-2; 1.
SMART; SM0189; IL2; 1.
PROSITE; PS06424; INTERLEUKIN_2; 1.
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Sigmodon.
NCBI_TaxID-42415;
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SEQUENCE
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Q9UCF5
ID Q9UCF5
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Capra hircus (Goat).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia! Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
BOvidae; Caprinae; Capra.

NCBL_TaxID~9925;
                                                                                                                                       SEQUENCE FROM N.A.
Ying O.H., Li X.R., Pan J.Y.;
A.Loning O.F. the goat IL.2 gene and its expression in E.coli.";
Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.
BMBL; AF307018; AAG28783.1;
HSSP; POLS85; 31MC
                                                                                                                                                                                                                                                                                                                                    53.7%; Score 79; DB 6; Length 155; 53.3%; Pred. No. 0.00032; ive 6; Mismatches 8; Indels
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
INPEREDKIN 2.
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Job time : 27 secs
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Matches 16; Conservative
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Luehken G., Prinzenberg E.-M., Hiendleder S., Erhardt G.;
"A single strand conformation polymorphism in the ovine interleukin 2
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla; Ruminantia, Pecora, Bovoidea,
Bovidae, Caprinae, Ovis.
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            Takeyoshi M., Iwata H., Inoue T.;
"Guinea pig Interleukin 2(IL-2) precursor.";
Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL. AB010093; BAA31346.1; -
HSSP: 901885; IIRL.
InterPro: IPR000779; Interleukin-2.
PRINTS: PR0015; IL2; 1.
PRINTS: PR0015; IL2; 1.
PRODMS; PR00189; Interleukin-2; 1.
SMORT; SM00189; IL2; 1.
                                                                                                                                                                   SIGNAL 1 20 POTENTIAL.
CHAIN 21 152 INTERLEBULN 2.
SEQUENCE 152 AA, 17271 MW; CA7AC08CLBBDDLFA CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                         01-WAR-2001 (TrEMBLrel. 16, Created)
01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
INTERLEUXIN 2 PRECURSOR (FRAGMENT).
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INTERLEUKIN 2.
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J. Anim. Sci. 0:0-0(2000).
EMBL; AF215687; AAG43986.1; -.
EMBL; AF213883; AAG43986.1; -.
HSSP; P01588; J.IRL.
InterPro; IPR000779; Interleukin-2.
PRINTS; PR00265; INTERLEUKIN2.
PRODOM: PD003649; Interleukin-2; ISANRT; SMO0189; IL2; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2001 (TrEMBLrel. 16, Created)
                                                                                                                                                                                                                                                                                                                                                                                PRT;
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7711 MW;
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                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9940;
 TISSUE-SPLEEN;
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SEQUENCE
                                                                                                                                                                                                                          Query Match
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                                                                                                                                                     Signal.
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SIGNAL
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Matches
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ID 09
AC 09
DT 01
                                                                                                                                                                                                                                                                                                                                                                  09GJR4
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Gaps

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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

Run on:

October 21, 2002, 09:48:11; Search time 13 Seconds (without alignments) 56.367 Million cell updates/sec

US-09-720-828A-4 Title: Perfect score:

147 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30 Sequence:

Scoring table:

231628 seqs, 24425594 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

Issued\_Patents\_AA:\*

/cgn2\_6/ptodata/1/iaa/5A\_COMB.pep:\*
/cgn2\_6/ptodata/1/iaa/5B\_COMB.pep:\*
/cgn2\_6/ptodata/1/iaa/6A\_COMB.pep:\*
/cgn2\_6/ptodata/1/iaa/6B\_COMB.pep:\*
/cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep:\*
/cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

& Query

Doorter	neact Total	Sequence 2. Appli	13.	13.	13,	13	2		ω,	H	'n	m	89	1	2	'n	Sequence 1, Appli	'n	13	, ,	m	7	C	.,	Patent No. 5210029	Š	No.	0
2		US-09-116-594-2	US-08-127-351-13	US-08-480-367B-13	US-08-487-221A-13	US-08-480-370-13	US-08-817-787-15	US-08-160-376A-5	US-08-389-487-8	US-07-800-366-1	US-08-354-456A-5	US-08-225-224-3	US-08-318-193-89	US-08-284-393B-1	US-08-284-393B-2	US-08-284-393B-3	US-08-734-471-1	US-08-722-258-3	US-08-817-787-13	US-09-310-026-1	PCT-US95-04468-3	PCT-US95-08950-1	PCT-US95-08950-2	PCT-US95-08950-3	5210029-1	5256769-1	5464939-2	5496924-55
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Length		31	20	20	20	20	88	96	96	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	134
Query Match		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Score	-	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
Result No.		-	7	m	4	S	9	7	φ.	σ,	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27

Sequence 3, Appli	Sequence 8, Appli	Sequence 111, App	Patent No. 5314995	, ,		'n	7	59,	Sequence 61, Appl	6, 4	· C	18.	2	ľ	7	Sequence 2, Appli	7
US-09-012-366-3	US-08-759-628-8	US-09-522-217-111	5314995-7	US-08-818-562-2	US-08-155-888-2	US-07-932-915-2	PCT-US91-05826-2	US-08-875-811-59	US-08-875-811-61	US-08-354-456A-6	US-08-806-121B-3	US-08-930-917A-18	US-08-383-621-5	US-08-459-906-5	US-07-777-715-7	US-08-170-126-2	US-08-954-418-2
53 3	53.4	53 4	33 6	57 4	78 3	1 1	34 5	51 3	34 3	33 1	37 3	11 4	5 2	5 3	18	18	3
153	ij	ä	ä	1	4	š	ഹ്	2	2	H	17	14	H	H	105	105	109
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	0.86						53.7	53.7	53.7
147	147	147	147	147	147	147	147	144	144	143	132.5	102	79	79	79	79	79
28	52	30	31	32	33	34	32	36	37	38	39	40	41	42	43	44	4.5

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Sequence 2, Application US/09116594
| Patent No. 6169785
| CENERL INFORMATION:
| CENERL INFORMATION:
| APPLICANT: THEZE, Jacques
| APPLICANT: MORED, Jean-Chaide
| APPLICANT: MORED, Jean-Chaide
| TITLE OF INVENTION: BIOLOGICAL APPLICATIONS OF NEW PEPTIDES OF IL-2 AND
| TITLE OF INVENTION: DELIVATIVES AND USE AS THERAPBUTIC AGENTS
| FILE REFERENCE: 0660-0134-0
| CURRENT APPLICATION NUMBER: US/09/116,594
| CURRENT FILING DATE: 1998-07-16
| NUMBER OF SEQ. ID NOS: 2
| SOFTWARE: Patentin Ver. 2.1
| SEQ. ID NO. 2
| LENGTH: 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence:peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: WOOD, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: CONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER &
ADDRESSEE: NEUSTADT,
ADDRESSEE: NEUSTADT,
ADDRESSEE: P.C.
STREET: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 147; DB 4;
100.0%; Pred. No. 1.9e-16;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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Patent No. 5449761
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 30; Conservative
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US-08-127-351-13
US-09-116-594-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                  Length 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: BELINKA Jr., BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: WOOD, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: CONSTRUCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & ADDRESSEE: NEGSTADT, P.C. STREET: 1755 S. Jefferson Davis Highway, Suite 400 CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.25
CURRENT APPLICATION DAFA:
APPLICATION NUMBER: US/08/487,221A
FILING DATE: O7-JUN-1995
CLASSIFTCATION: 424
                                                                                                                                                                                    Query Match

100.0%; Score 147; DB 1;

Best Local Similarity 100.0%; Pred. no. 3.4e-16;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 07-JUN-1995
CLASSIFICATION 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/127,351
FILING DATE: 28-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: VILLACOTTA, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 34,038
TELEPONMUNICATION INFORMATION:
TELEPONMUNICATION INFORMATION:
TELEPAX: (703) 413-3000
TELEPAX: 24885-0PAT UR
INFORMATION POR SEQ ID NO: 13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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                                                                                                                                                                                                                                                                                                                                                                                                      US-08-487-221A-13
; Sequence 13, Application US/08487221A
; Patent No. 5593656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50 amino acids
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Best Local Similarity 100.
Matches 30; Conservative
                             SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
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MOLECULE TYPE: peptide
US-08-487-221A-13
         INFORMATION FOR SEQ ID NO:
                                                                                       ; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-08-480-367B-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSE: OBLON, SP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: Virginia COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                       Matches
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Best Local Similarity 100.0%; Pred. No. 3.4e-16;
Matches 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:

APPLICANT: BELLINKA Jr, BENJAMIN A.

APPLICANT: BELLINKA Jr, BENJAMIN A.

APPLICANT: BELLINKA Jr, BENJAMIN A.

APPLICANT: ALVAREZ, VERNON L.

APPLICANT: WOOD, RICHARD

TITLE OF INVENTION: CONSTRUCTS

UNDBER OF SEQUENCES: 56

CORRESPONDENCES: ADDRESS:

ADDRESSEE: LOWE, PRICE, LEBLANC & BECKER
                                                                                                                                        OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/127,351
FILING DATE: 28-SEP-193
CLASSIFICATION: 534
ATORNEY,AGENT INFORMATION:
NAME: Villacorta, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECHMONICATION INFORMATION:
TELEFRAX: (703) 413-320
TELEFRAX: (703) 413-320
TELEFRAX: (703) 413-320
TELEFRAX: CRASS OPAT UR
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTRISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,367B FILIG DATE: 07-06-95 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: LOWE, PRICE, LeBLANC & BECKER STREET: 99 Canal Center Plaza, Suite 300 Ciry: Alexandria STATE: Virginia COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 07-06-95
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: VILLACOTEA, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/POCKET NUMBER: 2654-002A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 684-1111
TELEFAX: (703) 684-1124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
BDJUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC_DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
US-08-480-367B-13
Sequence 13, Appl.cation US/08480367B
Patent No. 5578288
                                                                                                    MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 50 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide US-08-127-351-13
                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acid
                 STATE: Virginia COUNTRY: U.S.A. 21P: 22202
CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
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Length 88;
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Patent No. 5473049
GENERAL INFORMATION
GENERAL INFORMATION
APPLICANT: Gerl, Martin
APPLICANT: Gerl, Martin
APPLICANT: Ludwig, Jurgen
APPLICANT: Ludwig, Jurgen
APPLICANT: Process For Obtaining Proinsulin
TITLE OF INVENTION: Processing Correctly Linked
TITLE OF INVENTION: Cystine Bridges
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUDRESSEE: Kenneth A. Genoni, Esq. STREET: Rt. 202-206 No. 5473049th/P.O. Box 2500 CITY: Somerville STATE: New Jerson
                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 147; DB 4;
Pred. No. 6.8e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                          CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/EP95/04117
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: EP 94 11 6558.1
FILING DATE: 20-0CT-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 APTSSSTKKTQLQLEHLLLDLQMILNGINN 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/160,376A
FILLING DATE: December 1, 1993
CLASSIFICATION: 530
                                                                                                                                                                                                                APPLICATION NUMBER: US/08/817,787
FILING DATE: 23-SEP-1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MORPHO/1
                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WINDOWS 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Haley Jr., James F. REGISTRATION NUMBER: 27,794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-596-9000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 30; Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM 386
OPERATING SYSTEM: WINDOWS
SOFTWARE: WORDPERFECT 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 88 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 212-55
TELEPHONE: 212-596-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-817-787-15
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COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
                                                          ZIP: 10020
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New Jersey
: U.S.A.
                     New York
New York
                                      USA
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TITLE OF INVENTION: TARGETED HETERO-ASSOCIATION OF
TITLE OF INVENTION: RECOMBINANT PROTEINS TO MULTI-FUNCTIONAL COMPLEXES
NUMBER OF SEQUENCES: 36
CORRESPONDENCE ADDRESS:
ADDRESSEE: FISH & NEAVE
STREET: 1251 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                        Sequence 13, Application US/08480370
Patent No. 5609847
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: BULINKA Jr. BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: MODD, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: CONSTRUCTS
TITLE OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER &
ADDRESSEE: P.C.
STREET: 1755 S. Jefferson Davis Highway, Suite 400
CITY: ALINGTON
STATE: Virginia
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%; Score 147; DB 1; Length 50; Best Local Similarity 100.0%; Pred. No. 3.4e-16; Matches 30; Conservative 0; Mismatches 0: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 424
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
PULING DATE: 28-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: VILLACOTTA, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 413-3000
TELEFAX: (703) 413-3000
TELEFAX: 248855 OPAT UR
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15, Application US/08817787 Patent No. 6294353 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : 50 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-817-787-15
                                                                 -08-480-370-13
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GENERAL INFORMATION:
APPLICANT: Ralph, Peter
APPLICANT: Martin, George
APPLICANT: Piatek, Michael
APPLICANT: Larrick, James W.
TITLE OF INVENTION: Multifunctional M-CSF Proteins and Genes Encoding
TITLE OF INVENTION: Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                    Sequence 1, Application US/07800366
Patent No. 5250296
GENERAL INFORMATION
APPLICANT: OOTSU, Koichiro
TITLE OF INVENTION: IMMUNOSTIMULANT AGENT CONTAINING
TITLE OF INVENTION: IMPERIEURIN-2 AND 5'-DEOXY-5-FLUOROURIDINE NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 133;
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                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS ADDRESSEE: CUSHMAN STREET: 130 Water Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: CHIRON CORPORATION
STREET: Intellectual Property - R440, P.O. Box 8097
CITY: Enveryville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: BATCHIN PC-DOS/MS-DOS
SOFTWARE: PATCHIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/800,366
FILIG DATE: 19911127
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 147; DB 1;
100.0%; Pred. No. 1.1e-15;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY AGENT INFORMATION:
NAME: Castle, Donald R
REGISTATION UNDRER: 24,220
REFERENCE/POCKET NUMBER: 41417(281)
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)523-6440
TELEX: 200291 STRE UR
INFORMATION FOR SEQ ID NO: 1:
                                      1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                              2 APISSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-08-354 456A-5
; Sequence 5, Application US/08354456A
; Patent No. 5567611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-800-366-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
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CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 30; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                            Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 02109
                                                                                                                                                RESULT 9
US-07-800-366-1
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                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                        Length 96;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Obermeier, Rainer
APPLICANT: Gerl, Martin
APPLICANT: Gerl, Walten
APPLICANT: Sabel, Walter
TITLE OF INVENTION: Process for Obtaining Insulin Having
TITLE OF INVENTION: Correctly Linked Cystine Bridges
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Finnegan, Henderson, Farabow, Garrett & ADDRESSEE: Dunner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: D.C. COUNTRY: United States of America ZIP: 20005-3315 COMPUTER READABLE FORM: WEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/389,487 FILING DATE: CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 147; DB 1;
100.0%; Pred. No. 7.6e-16;
vative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ouery Match 100.0%; Score 147; DB 1;
Best Local Similarity 100.0%; Pred. No. 7.6e-16;
Matches 30; Conservative 0; Mismatches 0;
APPLICATION NUMBER: GE P 4240420.7
FILING DATE: December 2, 1992
ATTORNEY/AGENT INFORMATION:
NAME: BAIDARA V. MAUTET, ESQ.
REGISTRATION NUMBER: 31,287
REFERENCE/DOCKET NUMBER: HOE 92/F 384
TELECOMMULICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 APTSSSTKKTQLQLEHCLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-389-487-8; Sequence 8, Application US/08389487; Patent No. 5663291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Elnaudi, Carol P.
REGISTRATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 0248:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1300 I Street, N.W.
                                                                                                                                                            TELEPHONE: (908) 231-4079
TELEFAX: (908) 231-2255
INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 202-408-4400
INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 96 Amino Acids
TYPE: Amino Acid (AA)
TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                             30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202-408-4400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-389-487-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 96 amino TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
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US-08-160-376A-5
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APPLICANT: GARVIN, Robert T.
APPLICANT: MALEK, Lawrence T.
TITLE OF INVENTION: OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
TITLE OF INVENTION: OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
TITLE OF INVENTION: STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
TITLE OF INVENTION: PROTEINS FROM STREPTOMYCES
NUMBER OF SOUDENES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: FOLEY & LARGHEE
                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                  Length 133;
                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Petentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/318,193
                                                                                                                                                                                                                                                                                                                          Query Match 100.08; Score 147; DB 1;
Best Local Similarity 100.08; Pred. No. 1.1e-15;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 07/224,568
ATORNEY,FAGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/OCCKET NUMBER: 18740/116 CACO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : Foley & Lardner
1800 Diagonal Road, Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                     1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,314
FILING DATE:
                                                                                                                                                                                                                        NAME/KEY: Protein
LOCATION: 1..133
CTHER INFORMATION: /label= IL2
US-08-225-224-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 89, Application US/08318193
Patent No. 5641663
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Alexandria
STATE: Virginia
STATE: Virginia
COUNTRY: USA
CAPPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
TELEPHONE: (415) 543-9600
TELEPAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (703)836-9300
                                                                                             LENGTH: 133 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : 133 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEX: 899149
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             , MOLECULE TYPE: protein US-08-318-193-89
                                                                                                                                                          TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                              TYPE: amino acid
STRANDEDNESS: unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-318-193-89
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                                                                                                                                                                                                       FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: RESTAN, ITA
APPLICANT: RESTAN, SOBERT J.
TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS AND
TITLE OF INVENTION: CIRCULARLY PERMUTED FUSION PROPEINS
NUMBER OF SEQUENCES: 57
CORRESPONDENCE ADDRESS:
ADDRESSED: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Prancisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA: 08/08/225,224
RPLING DATE: 8-APF-1994
CLASSIFICATION: 530
                                                                                                                                                          PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 147; DB 1;
100.0%; Pred. No. 1.1e-15;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 21 - DEC-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MCGAFI24Je Jr. Philip L.
REGISTRATION NUMBER: 31,395
REFERENCE/DOCKET NUMBER: 750.003/32387
TELECOMMUICATION INFORMATION:
TELEPHONE: (510) 661-2718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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ATTORNEY/AGENT INFORMATION:
NAME: Weber, Ellen L.
REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 15280-193
REFERENCE/OOKET NUMBER: 15280-193
                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/354,456A
FILING DATE: 12-DEC-1994
CLASSIFCATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2IP: 94105-1493
COMPUTER REDABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-705/MS-DOS
                        COUNTRY: U.S.A.
ZIF: 9462-807
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
OCMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/WS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/08225224 Patent No. 5635599 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : 133 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match 100.6
Best Local Similarity 100.1
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX: n/a
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear
MOLECULE TYPE: protein
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COUNTRY:
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Length 133;
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APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX0389
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3.9.5 Application US/08284393B
Patent No. 5696234
GENERAL INFORMATION:
APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INFORMION: MUTBINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: UN-AUG-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 147; DB 1;
Pred. No. 1.1e-15;
; Mismatches 0;
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Best Local Similarity 100.0%; Pred. No. 1.1.
Matches 30; Conservative 0; Mismatches
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STREET: 901 California Avenue
CITY: Palo Alto
STATE: California
COUNTRY: USA
ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: R.COPPY
COMPUTER: IBM PC COMPATAIN POS
COMPUTER: IBM 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPALIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY-AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX036
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-485-9196
TELEFAX: 415-496-1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 133 amino acids TYPE: amino acid sTRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 415-496-1200
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 415-852-9196
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-284-3938-2
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                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1. Application US/08284393B
Patent No. 5696234
GENERAL INFORMATION:
APPLICANT: ZUTAWSKI, Sandra M.
APPLICANT: ZUTAWSKI, GERACA
TITLE OF INVENTION: MUTEINS OF MANMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
STATE: California
COMPUTER CALIFORNIA
APPLICANT: ELAPPY disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: 01-0405-194
APPLICATION NUMBER: 01-0405-194
ELILNG DATE: 01-0405-194
ATRING DATE: 01-0405-195
ATRING DATE: 10-0405-194
AMAR: CHANGE AREA INFORMATION:
AMAR: CHANGE AREA INFORMATION:
AMAR: CHANGE AREA AREA
APPLICATION NUMBER: 01-0405-194
ATRING DATE: 01-0405-194
ATRING DATE: 01-0405-194
ATRING DATE: 01-0405-195
ATRING DATE: 01-0405-19
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Patent No. 5696334
GENERAL INFORMATION:
APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
    Best Local Similarity 100.0%; Pred. No. 1.1e-15; Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                          1 APTSSSTKKTQLQLEHLLLDI,QMILNGINN 30
                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DX0389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Ching, Edwin P. REGISTRATION NUMBER: 34,090 REFERENCE/DOCKET NUMBER: DXX TELECOMMUNICATION INFORMATION: TELEPHONE: 415-852-9196 TELERAX: 415-465-1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHRACTERISTICS:
LENGTH: 133 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: Si
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
US-08-284-393B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-284-393B-1
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0; Gaps

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; MOLECULE TYPE: peptide US-08-284-393B-3
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0; 0; Gaps Query Match
Best Local Similarity 100.0%; Score 147; DB 1; Length 133;
Best Local Similarity 100.0%; Pred. No. 1.1e-15;
Matches 30; Conservative 0; Mismatches 0; Indels 0

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Search completed: October 21, 2002, 09:50:15 Job time : 13 secs

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GenCore version 5.1.3

Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: October 21, 2002, 09:47:01; Search time 10 Seconds

(without alignments)

116.159 Million cell updates/sec
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Title: US-09-720-828A-4
Perfect score: 147
Sequence: 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Description	P01585 homo sapien		P51498 macaca mula		mironu			_		P26891 sus scrofa	Q08081 meriones un	P37997 equus cabal		9		P19114 ovis aries	P51747 cervus elap		_	_	_			-		-	Q9zmal helicobacte		_			₹ :	596 drosophila
Des	P01	029	P51	P46	062	007	029	077	P17	P26	800	P37	097	P05	P3683	P19	P51	80ŏ	P04	P21	P70	P27	P44	090	P05	260	260	027	002	P31	P87	P98	P4159
a ID	IL2_HUMAN	IL2_MACFA	IL2_MACMU	LILZ_CERTO	L ILZ_MIRAN	IL2_FELCA	IL2_CANFA	L IL2_RABIT	IL2_RAT	1 IL2_PIG	I IL2_MERUN	IL2_HORSE	1 IL2_ORCOR	IL2_BOVIN	IL2_CAPHI	IL2_SHEEP	1 IL2_CEREL	l IL2_MUSSP	1 IL2_MOUSE	L AAAA_EMENI	L FLGK_BORBU	l POL_SIVAG	L YHCH_HAEIN	L Y064_METJA	l POL_SIVAT	PM15_CHLPN	l Y347_HELPJ	L DNM1_PARLI	L A85C_MYCLE	POL_JSRV	L MSP1_SCHPO	ALA1_ARATH	L DOP1_DROME
DB	: H	М	٦	П	-	٦	г	-	-	***	٦	٦	_	-		П	_	_	П	7	7	-	П	М	_	-	П	7	_	Н	7	Η.	_
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% Query Match	100.0	100.0	100.0	96.6	78.9	77.6	73.1	72.8	0.99	65.3	9.49	62.6	59.9	53.7	53.7	53.7	53.7	43.9	43.5	36.7	34.7	34.0	32.7	32.7	32.7	32.3	31.3	31.3	30.6	30.6	30.6	30.6	30.3
Score	147	147	147	142	116	114	107.5	107	97	96	95	92	, 88	79	79	79	79	64.5	64	54	51	50	<b>4</b>	48	48	47.5	46	46	45	45	45	45	44.5
Result No.		7	m	4	Ŋ	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

005823 homo sapien 09cna 0 pasteurella p20359 nicotiana t P24738 neurospora 028324 archaeoglob 012667 piromyces s P38750 saccharomyc 09c;b8 lactococcus P12502 simian immu P24181 escherichia	
RNSA_HUMAN CAD3_PASMU CAD9_TOBAC CAD9_TOBAC CAD9_TOBAC SYEA_ARCFU XYNA_PIRSP XYNA_PIRSP XYNA_PIRSP XYNA_PIRSP XYNA_FIRSP XYNA_FIRSP XYNA_CACLACLA OCCL_LACLA YLWS_CAEEL ACRP_EOCUI	
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741 357 357 368 474 627 715 1019	
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### ALIGNMENTS

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SPECIES-Human;
MEDLINE-83167472; PubMed-6403867;
Tankquchi T., Matsui H., Fujita T., Takaoka C., Kashima N.,
Yoshimoto R., Hamuro J.;
Structure and expression of a cloned cDNA for human interleukin-2.";
Nature 302:305-310(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPECIES-Human; MEDLINE-84170356; PubMed=6608729; MEDLINE-84170356; PubMed=6608729; MEDLINE-84170356; PubMed=6608729; Mith K.A., Fornace A.J. Jr., Comeau C.M., Wiskocil R.L., Crabtree G.R.; "T-cell growth factor: complete nucleotide sequence and organization of the gene in normal and malignant cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-83246551; PubMed-6306584;
Webors R., Plaetinck G., Cheroutre H., Simons G., Degrave W.,
Tavernier J., Remaut E., Fiers W.;
"Molecular cloning of human interleukin 2 cDNA and its expression in
                                                                                                                                                                                                                                                                                                               MEDIJUNE-64247333, PubMed-6330695,
Holbrook N.J., Lieber M., Crabtree G.R.;
Holbrook N.J., Lieber M., Crabtree G.R.;
Holbrook N.J., Lieber M., Crabtree G.R.;
Holbrook The 5' flanking region of the human interleukin 2
gene: homologies with adult T-cell leukemia virus.";
Nucleic Acids Res. 12:5005-5013(1984).
                                                                                                                                                                                            Hylobates lar (Common gibbon).
Ebkaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBL_TaxID-9606, 9580;
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                                                                   21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPECIES-Human;
MEDLINE-84023840; PubMed-6312994;
Maeda S., Nishino N., Obaru K., Mita S., Nomiyama H.,
Fujimoto K., Teranishi T., Hirano T., Onoue K.;
Fujimoto K., Teranishi T., Hirano T., Onoue K.;
Fujimoto K., Teranishi T., Rikaso From human tonsils.";
Biochem. Biophys. Res. Commun. 115:1040-1047(1983).
                                    153 AA
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                                    PRT;
                                                                                                                                                                              Homo sapiens (Human), and
                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
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                                                                                                                                          (Aldesleukin).
                                                                                                                                                                                                                                                                                                       SPECIES-Human
                                  IL2_HUMAN
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RESULT 1
IL2_HUMAN
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EMBL; K03174; AAA35453.1;
EMBL; S77834; AAD14263.2;
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EMBL; X00695; CAA25292.1;
                                                                                                                                                                                                            RESPONSE TO ABOVE LETTER
                                                                                                                                                                                                                                                                                                                                                             3D-STRUCTURE MODELING.
                                                                                                                                      X-RAY CRYSTALLOGRAPHY
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STRUCTURE BY NMR.
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                                                                                                                                                             Bazan J.F.;
                                                                                                                                                                                                                                                                                                                                                                                                          modelling."
                                                                                                                                                                                                                         McKay D.B.
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  SEQUENCE FROM N.A.
SPECIES-Human, TISSUE-Placenta;
SPECIES-Human, TISSUE-Placenta;
MEDILINE-96422299; PubMed-8814916;
Chernicky C.L., Tan H., Burfeind P., Ilan J., Ilan J.;
"Sequence of interleukin-2 isolated from human placental poly A+ RNA:
Possible role in maintenance of fetal allograft.";
MOI. Reprod. Dev. 43:180-186(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                          Siebenlist U., Durand D.B., Bressler P., Holbrook N.J., Norris C.A., Kamoun M., Kant J.A., Crabtree G.R.;
*Promoter region of interleukin-2 gene undergoes chromatin structure changes and confers inducibility on chloramphenicol acetyltransferase gene during activation of T cells."

Mol. Cell. Biol. 6:3042-3049(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Expression of human interleukin-2 in recombinant baby hamster kiddey, Litk-, and Chinese hamster ovary cells. Structure of O-linked carbohydrate chains and their location within the polypeptide."; J. Biol. Chem. 264:17368-17373(1989).
                                                                                                                                                                                                                                                                                                                               MEDLINE-89062420; PubMed-3264184;
Weir M.P., Chaplin M.A., Wallace D.M., Dykes C.W., Hobden A.N.;
"Structure-activity relationships of recombinant human interleukin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Robb R.J., Kutny R.M., Panico M., Morris H.R., Chowdhry V.; "Amino acid sequence and post-translational modification of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conradt H.S., Nimtz M., Dittmar K.E.J., Lindenmaier W., Hoppe J.,
                                                                                                                                              Elzenberg O., Faber-Elman A., Lotan M., Schwartz M.;
"Interleukin-2 transcripts in human and rodent brains: possible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nishino N., Obaru K., Maeda S., Shimada K., Onoue K.; *Organization of the DNA regions flanking the human interleukin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 21-153, DISULFIDE BOND, AND CARBOHYDRATE-LINKAGE
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                                           MEDLINE-84170543; PubMed-6324170;
Fujita T., Takaoka C., Matsui H., Taniguchi T.;
"Structure of the human interleukin 2 gene.";
Proc. Natl. Acad. Sci. U.S.A. 80:7437-7441(1983).
Proc. Natl. Acad. Sci. U.S.A. 81:1634-1638(1984).
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                                                                                                                                                                     expression by astrocytes."; J. Neurochem. 64:1928-1936(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=87064618; PubMed=3491296;
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MEDLINE-90008901; PubMed-2793860;
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MEDLINE=86042650; PubMed=3877307;
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SEQUENCE OF 21-153 FROM N.A.
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SEQUENCE FROM N.A.
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                                   SPECIES-Human;
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STRUCTURE 2:839-851(1994).

-: FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGENIC STRUCTURE 2:839-851(1994).

-: FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGENIC STRUCTURE DESCRIPTION OF THEE PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, MATURAL KILLER CELLS, AND GLIOMA CELLS.

-: DISEASE: A FORM OF T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (T-ALL) IS CHARACTERIZED BY A CHROMOSOMAL TRANSLOCATION T(4;16)(026;P13) WHICH INVOLVES II.2 AND BCMA.

-: PHARMACEOTICAL: AVAILABLE under the name Proleukin (Chiron). Used in patients with renal cell carcinoma or metastatic melanoma.

-: SIMILARITY: BELONGS TO THE IL-2 FAMILY.

-: SIMILARITY: BELONGS TO THE IL-2 FAMILY.

-: DATABARSE: NAME-RED Systems. COM/asp/g_sitebuilder.asp?bodyId=206".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Secondary structure of human interleukin 2 from 3D heteronuclear NMR
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         qene of a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mott H.R., Driscoll P.C., Boyd J., Cooke R.M., Weir M.P., Campbell I.D.;
"A viral long terminal repeat in the interleukin 2
line that constitutively produces interleukin 2.";
Proc. Natl. Acad. Sci. U.S.A. 82:7284-7288(1985).
                                                                                                                                                                                                                                                                                                 Brandhuber B.J., Boone T., Kenney W.C., McKay D. "Three-dimensional structure of interleukin-2."; Science 238:1707-1709(1987).
                                                                                                                                                                              X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Unraveling the structure of IL-2."; Science 257:410-412(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL, M22005; AAA59140.1; ALT_INIT.
EMBL, MILL44, AAA54544.1; .
EMBL; AN3199; AAA59139.1; .
EMBL; A14844; CAA01199.1; .
PIR: A01849; ICHUZ.
PIR: A01849; ICHUZ.
                                                                                                                                                                                                          SPECIES-Human;
MEDLINE-88070646; PubMed-3500515;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-92379010; PubMed-1510960;
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Biochemistry 31:7741-7744(1992).
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EMBL; M13879; AAA59141.1;
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154 AA

STANDARD;

Euteleostomi;

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Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A., "Comparative sequence analysis of cytokine genes from human and
                                      01-OCT-1996 (Rel. 34, Last sequence update)
LoCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                    Macaca nemestrina (Pig-tailed macaque).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Eutele
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                          Macaca mulatta (Rhesus macaque), and
                                                                                                                                                                                                              MEDLINE-96003435; PubMed-7561102;
                         01-OCT-1996 (Rel. 34, Created)
                                                                                                                                              Cercopithecinae; Macaca.
                                                                                                                                                          NCBI_TaxID=9544, 9545;
                                                                                                                                                                                                                                                      nonhuman primates.";
                                                                                                                                                                                     SECUENCE FROM N.A.
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IL2_MACMU
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                                                                                                                                                                                                                                                                                                                                                                                                               PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, AND GLIOMA CELLS (BY
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O-LINED (GALNAC. . .) (BY SIMILARITY).
SIMILARITY.
7853FE624A5E4A49 CRC64;
                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; Buteleostomi; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMART; SM00189; IL2; 1. PROSITE; PROSITE; PS00424; INTERLEUXIN_2; 1. Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                            TISSUE-PETIPHERAL Blood;
Yabe M., Matsuura Y., Tatsumi M.;
Submitted (Jul.1995) to the EMEL/GenBank/DDBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
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                                                                                                                                                                                                                                                      Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
                                                                                                                                                                                  01-NOV-1997 (Rel. 35, Created)
1-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
11-OCT-2001 (Rel. 40, Last annotation update)
11-terleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
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           Length 153;
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           100.0%; Score 147; DB 1; 100.0%; Pred. No. 2.5e-15;
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Pred. No. 2.5e-15;
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SIMILARITY: BELONGS TO THE IL-2 FAMILY.
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126 BY
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PRINTS; PR00265; INTERLEUKIN2.
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Mammalia; Eutheria;
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J. IMMUNEL 155:3946-3954(1995).
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O-LINKED (GALNAC. . .) (BY SIMILARITY). BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART; SMO0189; IL2; 1.
PROSITE; PSO0424; INTERLECKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6AEBA480F204BA49 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 147; DB 1;
Pred. No. 2.5e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 154 AA.
                                                                                                                                                                                 -- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21 APTSSSTKKTQLQLEHLLLDLQMILNGINN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U19847; AAB60400.1; -.
EMBL; U19852; AAA86714.1; -.
HSSP; P01585; 31RK.
InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PD003649; Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00715; IL2; 1
PRINTS; PR00265; INTERLEUKIN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17685 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
es 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
154
23
126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           154 AA;
                                                                                                                                                                SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEPTER
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RESULT 3 IL2\_MACMU

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                                                                                                                                                                                                         IMPUNDI. 155:3946-3954(1995).
PUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION. PROPEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                              IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!-SUBCELLUIAR LOCATION: Secreted
-!-SUMILARITY: BELONGS TO THE IL-2 FAMILY.
 Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey)
                Eukaryota, Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Mammalla; Eutherla; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Mirounga.
NCBI_raxID=9716;
                                                                                                                                                     Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.; "Comparative sequence analysis of cytokine genes from human and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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-DEC-1998 (Rel. 37, Last sequence update)
-CGT-2001 (Rel. 40, Last annotation update)
-CGT-2001 (Rel. 40, Last annotation update)
-CGT-2001 (Rel. 40, Lest annotation update)
-CGT-2001 (Rel. 40, Lest annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 142; DB 1; Length 134
Pred. No. 1.4e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9FEB51814204BA48 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mirounga angustirostris (Northern elephant seal).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INTERLEUKIN-2.
O-LINKED (GALNAC.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            154 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEGUENCE FROM N.A.
MEDLINE-98136706; PubMed-9476229;
Shoda L.K.M., Brown W.C., Rice-Ficht A.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21 APTSRSTKKTQLQLEHLLLDLQMILNGINN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000779; Interleukin-2.
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ProDom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                      MEDLINE-96003435; PubMed-7561102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17754 MW:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; U19846; AAB60399.1; -.
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96.78;
                                                    Cercopithecinae; Cercocebus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART: SM00189; IL2: 1
                                                                                                                                                                                             nonhuman primates."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00715; IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3INK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  154 AA;
                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                    NCBI_TaxID=9531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29;
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062641;
                                                                                                                                                                                                              J. Immunol
-!- FUNCTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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IL2_MIRAN
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"Sequence and characterization of phocine interleukin 2.";
J. Wildl. Dis. 34:81-90(1998).

-1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTICENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULARE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              feline interleukin 2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROPERIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Felis silvestris catus (Cat).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-ocT-1994 (Rel. 30, Created)
01-ocT-1994 (Rel. 30, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE-93356765; PubMed-8352761;
Cozzi P.J., Padrid P.A., Takeda J., Alegre M.-A., Yuhki N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      78.9%; Score 116; DB 1; Length 15/
73.3%; Pred. No. 1.3e-10;
Viematches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
Litman R., Gibbs C., Good R.A., Day N.K.;
Submitted (NOV-1994) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . .) (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (B)
BY SIMILARITY.
OC92337A4B16B6BB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Sequence and functional characterization of feline
Biochem. Biophys. Res. Commun. 194:1038-1043(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         154 AA
                                                                                                                                                               SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 APTSSSTKKTOLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS: PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00424; INTERLEUKIN 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17661 MW;
                                                                                                                                                                                                                                                                                                                                                 EMBL; U79187; AAC12258.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
154
23
126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154 AA;
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                                                                                                                            SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                     HSSP; P01585;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Leff A.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IL2_FELCA
Q07885;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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11.2;
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151
154
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
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SIGNAL
CHAIN
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         SOUTH THE THE THE TENT TO THE TENT TO THE TENT T
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                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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0
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Somberg R.L., Pullen R.P., Casal M.L., Patterson D.F., Felsburg P.J.,
Henthorn P.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A single nucleotide insertion in the canine interleukin-2 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia; Eutheria; Carnivora, Fissipedia, Canidae, Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gamma chain results in X-linked severe combined immunodeficiency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 112_CANFA STANDARD, PRT; 155 AA. 029416; 028249; 15-JUL-1998 (Rel. 36, Created) 15-JUL-1998 (Rel. 36, Last sequence update) 30-MAY-2000 (Rel. 39, Last annotation update) Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN-XBRED21/12/93; TISSUE-Lymph node;
MEDLINE-95331423; PubMed=7612930;
Dunham S.P., Argyle D.J., Onions D.E.;
"The isolation and sequence of canine interleukin-2.";
DNA Seq. 5:177-180(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-LINKED (GLCNAC. . .) (PC
KI -> RM (IN REF. 2).
F -> I (IN REF. 2).
2E71E3BD8B9665EF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 114; DB 1;
Pred. No. 2.6e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vet. Immunol. Immunopathol. 47:203-213(1995)
SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERLEUKIN-2.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21 APASSSTKETQQQLEQLLLDLRLLLNGVNN 50
                                                                                                                                                                                                                                                                                                                                      EMEL; L25408; AAA51431.1; -.
PIR; JN0698; JN0698.
HSSP: P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam: PF00115; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
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STRAIN-BEAGLE; TISSUE-Spleen;
MEDLINE-95347614; PubMed-7622066;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.68;
                                                                                                                                                                                                                                                                                                              EMBL; L19402; AAA02865.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17653
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Canis familiaris (Dog)
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3
150 1
154 AA;
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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O-LINKED (GALNAC. ..) (BY SIMILARITY).
N-LINKED (GALNAC. ..) (POTENTIAL).
BY SIMILARITY.
M -> I (IN REF. 3).
Q -> R (IN REF. 3).
F -> Y (IN REF. 3).
L -> M (IN REF. 3).
L -> M (IN REF. 3).
AW, D123846687F4ACID CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                      -!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL MITOGENIC STIMULATION, THIS PROTEIN ES REQUIRED FOR T-CELL FROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONCCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLUIAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Lymph node;

Rear P.J., Lei S., Hardy C., Perkins H.D.;

"Complete CDNA sequence of rabbit interleukin-2.";

Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.

-! FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL

PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS00434; INTERLEUKIN_2; 1.
Glycoprotein; Immune response; Signal; Growth factor;
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15-JUL-1999 (Rel. 38, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
Knapp D.W., Williams J.S., Andrisani O.W.;
"Cloning of the canine interleukin-2-encoding cDNA.";
Gene 159:281-282(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73.1%; Score 107.5; DB 1
71.0%; Pred. No. 2.6e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AP-TSSSTKKTQLQLEHLLLDLQMILNGINN 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17668 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL, D30710; BAA06378.1; -. EMBL, U28141; AAA68969.1; -. EMBL; U11689; AAA75360.1; -. HSSP; P01585; 31NK.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytokine; Glycoprotein;
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entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                          BY SIMILARITY
                          or send an email to license@isb-sib.ch)
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HSSP; P01582; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; PP00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SWART; SW00189; IL2; 1.
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155 AA; 17632 MW;
                                                                     EMBL; M22899; AAA41427.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
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P26891;
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IL2_PIG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to licenseelab-sib.ch).
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Rattus norvegicus (Rat).
Eukaryota: Metazoa: Chordata; Craniata; Vertebrata: Euteleostomi;
Mammalia: Eutheria: Rodentía; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O-LINKED (GALNAC. . .) (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGENIC STIMILATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERALION AND OTHER ACTIVITIES CRECIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-1- SUBCELLULAR LOCATION: Secreted.
-1- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         McKnight A.J., Mason D.W., Barclay A.N.; "Sequence of rat interleukin 2 and anomalous binding of a mouse interleukin 2 cDNA probe to rat MHC class II-associated invariant
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3; Indels
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8173536B2DDDBB86 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72.8%; Score 107; DB 1; 70.0%; Pred. No. 3.1e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            155 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INTERLEUKIN-2.
                                                                   SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21 APTSSSTKETQEQLDDLLDLQVLLKGVND 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=89339608; PubMed*2788130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chain mRNA.";
Immunogenetics 30:145-147(1989).
                                                                                                                                                                                                                                                                                         EMBL; AF068057; AAC23838.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17256 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00715; IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                153 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                 HSSP; P01585; 31NK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cell.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IL2_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                               INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JUNEAR H., Hasegawa A., Yamamoto M., Oida T., Endo Y., Inoue T.;
"Structure of the porcine chromosomal interleukin-2 gene.";
"Structure of the porcine chromosomal interleukin-2 gene.";
"Structure (APR-2000) to the EMBL/GenBank/DDBJ databases.

-i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIEFSATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.

-i- SUBCELLULAR LOCATION: Secreted.
-i- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1992 (Rel. 23, Created)
01-MUG-1992 (Rel. 23, Last sequence update)
01-MR-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                       66.0%; Score 97; DB 1; Length 155; 66.7%; Pred. No. 1e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (MAY-1991) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                       67A8554A73BF30A0 CRC64;
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InterPro; IPR000779; Interleukin-2.
                                                                                                                          CARBOHYD
                                                                                                                                                                          Query Match
                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                          P37997;
                                                                                                 SIGNAL
                                                                                                               CHAIN
                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                      RESULT 12
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                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mai I., Kousoulas K.G., Horohov D.W., Klei T.R.;
"Cross-species PCR cloning of garbil (Meriones unguiculatus)
interleukin-2 cDNA and its expression in COS-7 cells.";
Vet. Immunol. Immunopathol. 40:63-71(1994).
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTIEN ESEQUIRED POR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIONA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                    . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Meriones ungulculatus (Mongolian jird).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
                                                                                                                                                                                  Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-1994 (Rel. 30, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                    Length 154;
                                                                                                                                                                                                                                                                       Score 96; DB 1; Length 154
Pred. No. 1.5e-07;
Fred. No. 1.5e-07;
Fred. Score 96; Indels
                                                                                                                                                                                                                                O-LINKED (GALNAC. . .) (B)
BY SIMILARITY.
F3B95E43D4A3D3E1 CRC64;
                                                                                                                                                                                                                       INTERLEUKIN-2
                                                                                                                                                                                                           BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                               21 APTSSSTKNTKKQLEPLLDLQLLLKEVKN 50
                                                     EMBL, AD01295, CARTILLO.1; --
PIR: $15473; $15473.
PIR: $16241, $16241.
HSSP, P01585; 31KK.
InterPro; IRR000779; Interleukin-2.
Pfan, PP00715; ILS.
PR00565; INTERLEUKIN2.
PR00500; PD003649. INTERLEUKIN2.
                                                                                                                                                         SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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MEDLINE-94174702; PubMed-8128610;
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154 IN
23 O-
126 BY
17401 MW;
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(Rel. 30, Last sequ
(Rel. 40, Last anno
                                   EMBL; X56750; CAA40071.1; -.
                                                                                                                                                                                                                                                                                65.3%;
ilarity 66.7%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                          154 AA;
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                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 20; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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21
23
78
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01-0CT-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                     IL2_MERUN
                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                              DISULFID
                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                           T-cell.
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between the Swiss Institute of Bioinformatics and the EMBL outstation. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                   . () (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOWA CELLS. SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Perissodactyla, Equidae, Equus.
                                                                                                   PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tavernor A.S., Allen W.R., Butcher G.W.;
Submitted (NOV-1992) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-ocr-1994 (Rel. 30, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-94160538; PubMed-8116217; Vandergrifft E.V., Horohov D.W.; Wandergrifft E.V., Horohov D.W.; "Moleular cloning and expression of equine interleukin 2."; Vet. Immunol. Immunopathol. 39:395-406(1993).
                                                                                                                                                                                                                                                                                                                                                                             64.6%; Score 95; DB 1; Length 155; llarity 66.7%; Pred. No. 2.1e-07; Conservative 2; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                        DOF74AA1A381CDDA CRC64;
                                                                                                                                                                                                                                       INTERLEUKIN-2.
O-LINKED (GALNAC.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149 AA.
                                                                                                                                                                                                           BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21 APTSSPAKEAQOYLEQLLLDLQQLLRGINN 50
                                                              Interleukin-2; 1.
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ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                    20 BY
155 1N
23 0-
126 BY
17602 MW;
Pfam; PF00715; IL2; 1.
PRINTS; PRODC26; INTERLEUKINZ
PRODOM; PD00364; Interleukin.
SMART; SM00189; IL2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Equus caballus (Horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S31391; S31391.
HSSP; P01585; 3INK.
                                                                                                                                                                                                       21
23
23
78
155 AA;
                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAIR. MARIN. SGL. 14:531-543(1998).

-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGERIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Orcinus orca (Killer whale).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphinidae;
                                                                                                                                                                                                                                                                         Gaps
                                                       . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ness T.L., Bradley W.G., Reynolds J.E. III, Roess W.B.; *Isolation and expression of the interleukin-2 gene from the killer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PSO0424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
1 20 BY SIMTIADIMY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAY-2000 (Rel. 39, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
                                                                                                                                                                                                                                          Length 149;
                                                                                                                                                                                                           051BB8C47A0114FC CRC64;
                                                                                                                                                                                                                                        DB 1,
5.7e-07;
5;
      BY SIMILARITY,
INTERLEUKIN-2.
BY SIMILARITY.
O-LINKED (GALNAC.
N-LINKED (GALNAC.
R -> K (IN REF. 2).
I -> M (IN REF. 2).
I -> K (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY).
SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                           8; Mismatches
                                                                                                                                                                                                                                          62.6%; Score 92; 56.7%; Pred. No.
                                                                                                                                                                                                                                                                                                                      21 APTSSSKRETQQQLKQLQMDLKLLLEGVNN 50
                                                                                                                                                                                                                                                                                                        1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Interpro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRNTMS; PR00765; INTERLEUKIN2. PRODOM; PD003649; INTERLEUKIN-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAY-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AF009570; AAD01426.1; -. HSSP; P01585; 1IRL.
                                                                                                                                                                                                           17086 MW;
                                                                                                                                                                                                                                                        Best Local Similarity 56.7
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                whale, Orcinus orca.";
             20
149
121
23
106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                           149 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       [Fragment].
                                                                                                                                                                                                                                                                                                                                                                                                                      IL2_ORCOR
                                                                                                                                                                          CONFLICT
                                                                                            CONFLICT
                                              DISULFID
                                                                                                                             CONFLICT
                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                             Query Match
                                                              CARBOHYD
                                                                               CARBOHYD
                                                                                                                                            CONFLICT
                                                                                                                                                              CONFLICT
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T-cell.
                 SIGNAL
                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
IL2_ORCOR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cerretti D.P., McKereghan K., Larsen A., Cantrell M.A., Anderson D., Gillis S., Cosman D., Baker P.E., "Cloning, sequence, and expression of bovine interleukin 2."; Proc. Natl. Acad. Sci. 0. SA. 83:3223-3227(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Aulkeeva N.N., Vinogradova T.V., Votoshin O.N.;
Submitted (DEC-1989) to the EMBL/GenBank/DBJ databases.
-!- PUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGRNIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, ANTURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELDULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE=86205870; Pubmed=3486415;
Reeves R., Spies A.G., Nissen M.S., Buck C.D., Weinberg A.D.,
Barr P.J., Magnuson N.S., Magnuson J.A.;
"Molecular cloning of a functional bovine interleukin 2 cDNA.";
Proc. Natl. Acad. Sci. U.S.A. 83:3228-3232(1986).
                                                                                                                                              :
                                                                                                                                                                                                                                                                                                                                                               13-AUG-1987 (Rel. 05, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
IL2 OR IL-2.
                                                                                                           Length 152;
                                                                                                                                                Indels
                                                                         17424 MW; 308F91821ECCB764 CRC64;
                                                                                                                                              9
                                                                                                           Score 88; DB 1; I
Pred. No. 2.4e-06;
                                                                                                                                                                                                                                                                                                             155 AA.
                                      BY SIMILARITY.
                                                                                                                                                6; Mismatches
                                                                                                                                                                                                        21 APTSSSTENTKKQVQSLLQDLQLLLKEINN 50
                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR00779; Interleukin-2. Pfam; PP00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. ProDom; PD003649; Interleukin-2: 1.
                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M13204; AAA21143.1; ALT_INIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-86205869; PubMed-3517854;
                                                                                                                                                                                                                                                                                                                                                  13-AUG-1987 (Rel. 05, Created)
                                                                                                           59.9%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M12791; AAA30586.1; -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X17201; CAA35062.1;
EMBL; X52687; CAA36912.1;
HSSP; P01585; 31NK.
                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine).
     21 >1
23
78 1
152 1
152 AA;
                                                                                                                              Local Similarity
les 18; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaXID=9913;
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                                                                                                                                                                                                                                                                                                             1L2_BOVIN
P05016;
     CHAIN
                                                           NON_TER
SEQUENCE
                                                                                                               Query Match
                                          DISULFID
                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                             RESULT 14
IL2_BOVIN
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. .) (BY SIMILARITY).

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                                                                                                            INTERLEUKIN-2.
BY SIMILARITY.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Beyer J.C., Cheevers W.P.,
Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.
-!-FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO RECULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!-SUBLELLULAR LOCATION: Secreted.
-!-SUMLLARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Capra hircus (Goat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D12_CAPHI STANDARD; PRT; 155 AA. P162_CAPHI STANDARD; PRT; 155 AA. P36156; D1-JUN-1994 (Rel. 29, Last sequence update) D1-JUN-1994 (Rel. 29, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                            Length 155
                                                                                                                                                                                                                                                                                               pred. No. 5.7e-05;
6; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rimstad E.;
Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                            Score 79; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY
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EMBL; U34274; AAB38527.1; -.
PIR; 238662; S38662.
HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfan; PF00715; ILIZ.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
                     PROSITE; PS00424; INTERLEUKIN_2; 1.
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155
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17627 MW;
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Local Similarity 53.3%;
les 16; Conservative
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NCBI_TaxID=9925;
SMART; SM00189; IL2; 1.
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155
                                                                                                                                                                                                                        155 AA;
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TISSUE-Blood;
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DISULFID
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112_CAPHI

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Gaps
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8; Indels
                                                                                                                                                                      Length 155;
                                                                                                                                               90022DFBB6AF78DE CRC64;
                         5
                                                        REF. 2).
REF. 2).
REF. 2).
REF. 2).
O-LINKED (GALNAC...
BY SIMILARITY.
PY -> T (IN REF. 2).
T -> P (IN REF. 2).
T -> P (IN REF. 2).
D -> A (IN REF. 2).
R -> E (IN REF. 2).
XMASLKG -> SMDNIKR.
Q -> L (IN REF. 2).
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T -> I (IN REF. 2).
T -> L (IN REF. 2).
T -> L (IN REF. 2).
T -> L (IN REF. 2).
                                                                                                                                                                                           6; Mismatches
                                                                                                                                                                     Score 79;
Pred. No.
                                                                                                                                                                                                                1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                             21 APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
                                                                                                                                                17703 MW;
                                                                                                                                                                     53.78;
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les 16; Conserv
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155 ;
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Search completed: October 21, 2002, 09:49:03 Job time : 12 secs

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GenCore version 5.1,3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

October 21, 2002, 09:47:56; Search time 16 Seconds (without alignments) 180.168 Million cell updates/sec Run on:

US-09-720-828A-4 147 Title: Perfect score: Sequence:

1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Total number of hits satisfying chosen parameters: 283138 seqs, 96089334 residues Searched:

283138

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

pir\_71:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
1: pir4:\*

Pred. No. 1s the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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SUMMARIES																														
SUMO	ΩI	ICHU2	ICG12	JN0698	A31278	S16241	833209	S31391	838662	S11488	145913	837289	ICMS2	168870	154512	168871	S12169	G82262	F95285	E70122	C70701	F82217	A89130	T22210	F64145	H64307	AB1367	AC1736	GNLJG4	T11685
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ORD.	Query Match	100.0	100.0	77.6	66.0	65.3	64.6	62.6	53.7	53.7	53.7	46.9	43.5	40.5	39.8	39.1	36.7	35.4	34.7	34.7	34.0	33.3	33.3	33.0	32.7	32.7	32.7	32.7	32.7	32.3
	Score	147	147	114	6	96	95	92	79	79	79	69	64	59.5	58.5	57.5	54	25	51	51		49	49	48.5	48	48	48	48	48	47.5
	Result No.		7	æ	4	S	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	53

polymorphic outer	polymorphic membra	DNA-binding respon	conserved hypothet	hypothetical prote	SEC14 protein homo	nonmuscle myosin I	hypothetical prote	hypothetical prote	hypothetical prote	hypothetical prote	galactokinase (EC	oligopeptide ABC t	peptide ABC transp	hypothetical prote	hypothetical prote
F86548	H72074	H82447	B70209	F89839	T41244	A59282	T05656	C84888	A71946	H90434	C37760	B64551	H82355	T18745	T32980
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938	938	230	398	557	1008	1964	159	211	293	323	380	516	571	614	693
32.3	32,3	32.0	32.0	32.0	32.0	32.0	31.6	31.6	31,3	31.3	31.3	31.3	31.3	31.3	31.3
47.5	47.5	47	47	47	47	47	46.5	46.5	4 6	46	46	46	46	46	46
30	31	32	33	34	35	36	37	38	36	40	41	42	43	44	45

### ALIGNMENTS

RESULT 1 ICHU2

interleukin-2 precursor (validated) - human N:Alternate names: IL-2: T-cell growth factor
C.Species: Homo sapiens (man) C.Date: 11-Ano-1983 #sequence revision 11-Ang-1983 #text change 08-Dec-2000
C; Accession: 39 121192; A20961; S31209; A93297; A90113; A93478; 156518; 173624
Nucleic Acids Res. 12, 5005-5013, 1984
A;Title: DNA sequence of the 5' tlanking region of the numan interleukin 2 gene: no A;Reference number: A93524; MUID:84247353
A.Accession: A01849
A. Mesidues: 1-153 (HDL>
A,Cross-references: GB:X00695; GB:X00200; GB:X00201; GB:X00202; NID:933783; PIDN:CAJ
R:FUJICA, T.; Takaoka, C.; Matuli, H.; Tanguochi, T. Proc. Matl Acad Got II & A. RO. 74.77-7411 1983
A, Title: Structure of the human interleukin 2 gene.
A; Reference number: A21192; MUID:84170243
A.A.C. (2011) 1192
A:Residues: 1-153 <fuv></fuv>
A;Cross-references: GB:J00264; NID:9186294; PIDN:AAD48509.1; PID:95729676
R; Holbrook, N.J.; Smith, K.A.; Fornace Jr., A.J.; Comeau, C.M.; Wiskotil, R.L.; Crah
Proc. Natl. Acad. Sci. U.S.A. Bi, 1934-1938, 1934
A:reference number: A20961; MUID:84170356
A; Accession: A20961
A; Molecule type: DNA
A; Residues: 1-153 <hoz.< td=""></hoz.<>
A).CLOS-Interfedices: us.NO.2009. NID:gitoobools: First True; voors- Ribaabi, Y.: Gras, M.P.: Carbonnel, F.: Bronet, J.C.: Berger, R.: Larsen, C.J.; Tsar
A; Title: A new gene _ BCM, on chromosome 16 is fused to the interleukin 2 gene by a t
A; Reference number: 531208; MulD:930L0984
A: Molecule type: mRNA
A; Residues: 11-117 <laa></laa>
A;Cross references: EMBL:Z14955
A; Note: this sequence is shown from the beginning of the fragment to the unfonceomal because, the sequence is not it is material of the continued of the sequence of the continued of the contin
Kitallydeni, 1:; Market, H.; Fujica, I.; Iakaoka, C.; Mashima, M.; Joshimoco, K.; in Nature 302, 302, 195-310, 1983
A,Title: Structure and expression of a cloned cDNA for human interleukin-2.
A;Reference number: A93297; MUID:83167472
A; Accession: A93297
A; Molecule Lype: mrna A; Residues: 1-153 <tan></tan>
A,Cross-references: GB:V00564; NID:933780, PIDN:CAA23827.1; PID:933781
A; Experimental source: leukemic T-cell line, Jurkat-111, cloned from Jurkat-FHCRC
K;Maeca, S.; NISTLIO, N.; Oderu, K; Miles, S.; Nathyana, H.; Shimmod, K.; Fujimoto, Bishimoto, M.; Fujimoto, M.; Mariyana, M.; Fujimoto, Bishimoto, M.; Mariyana, M.; Mari
A:Title: Cloning of interleukin 2 mRNAs from human tonsils.

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A, Note: the O-linked glycosylation site in recombinant material matched that from hur R; Grabenhorst, E.; Hofer, B.; Nimtz, M.; Jaeger, V.; Conradt, H.S.

Bur. J. Blochem, 215, 189-197, 1993
A; Title: Biosynthesis and secretion of human interleukin 2 glycoproteins variants fr A; Reference number: S34052; MID:93345433
A; Contents: annotation; glycosylation of variant forms expressed in insect cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interleukin-2 precursor - common gibbon
N;Alternate names: IL-2; T-cell growth factor
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Species: J-ce-1991 *sequence_revision 31-bec-1991 *text_change 22-Jun-1999
C;Species: J-ce-1991 *sequence_revision 31-bec-1991 *text_change 22-Jun-1999
C;Species: J-cession A94067; A01489
M;Cession: A0161 *A0167; MUID:86042650
A;Reference number: A94067; MUID:86042650
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C: Reywords: cytokine; glycoprotein; predicted <SIG>
F: 1-153/Product: interleukin-2 #status predicted <IL2>
F: 21-153/Product: carbohydrate (Thr) (covalent) #status predicted
F: 78-125/Pisulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Cross-references: GB:M11144; NID:g177014; PIDN:AAA35454.1; PID:g177015
A; Experimental source: leukemia cell line MIA 144; ATCC TIB 201
A; Note: the integration of a retrovirus sequence containing a 5' LTR into the 3' use Superfamily: interleukin-2
C; Superfamily: interleukin-2
C; Keywords: Cytokins: clemental
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R; Cozzi, P.J.; Padrid, P.A.; Takeda, J.; Alegre, M.L.; Yuhki, N.; Leff, A.R. Bicchem. Biochhem. Biochem. 194, 1038-1043, 1993
A; Title: Sequence and functional characterization of feline interleukin 2. A; Reference number: JN0698; MUID: 93356765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            interleukin 2 precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 16-Jul-1999
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0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: GDB:IL2
A;Cross-references: GDB:119344; OMIM:147680
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Best Local Similarity 100.0
Matches 30, Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Map position: 4q26-4q27
A, Introns: 49/3; 69/3; 117/3
C, Superfamily: interleukin-2
C, Keywords: cytokine; glycopr
A; Accession: A34463
A; Molecule type: protein
A; Residues: 21-35 <CON>
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Best Local Similarity
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A;Status: translated from GB/EMBL/DDBJ
A;Status: translated from GB/EMBL/DDBJ
A;Status: 166 ARE2
A;Residues: 166 ARE2
A;Accession: 157603
A;Ittle: Promoter region of interleukin-2 gene undergoes chromatin structure changes and A;Reterence number: 157603; MUID:87064618
A;Accession: 157603
A;Status: translated from GB/EMBL/DDBJ
A;Residues: 1-68 ARE3
A;Cross-references: GB:HJ3879; NID:9186305; PIDN:AAA59141.1; PID:9553509
A;Residues: 1-68 ARE3
A;Cross-references: GB:HJ3879; NID:9186305; PIDN:AAA59141.1; PID:9553509
A;Reterence number: 154401; MUID:89062420
A;Reference number: 155401; MUID:89062420
A;Cross-reference number: 155401; MUID:9186305
A;Cross-reference number: 155401; MUID:99062420
A;Cross-reference number: 155401; MUID:99062420
A;Cross-reference number: 155401; MUID:99062420
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A; Molecule type: DNA
A; Molecule type: DNA
A; Molecule type: DNA
A; Status: translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Cross-references: GB: WA2005; NID: 9186300; PIDN: AAA59140.1; PID: 9386818
A; Note: mutation of Phe-42 to Ala reduced binding to the IL-2 receptor 5-10 fold without R; Robb, R.J.; Kutny, R.M.; Panico, M.; Morris, H.R.; Chowdhry, V.
Proc. Natl. Acad. Sci. U.S.A. 81, 6486-6490, 1984
A; Title: Amino acid sequence and post-translational modification of human interleukin 2.
A; Accession: A94009; MUID: 85038540
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R; Conradt, H.S.; Nimtz, M.; Dittmar, K.E.J.; Lindenmaier, W.; Hoppe, J.; Hauser, H. J. Biol. Chem. 264, 17368-17373, 1989
A;Title: Expression of human interleukin-2 in recombinant baby hamster kidney, Ltk-, and
                                                                                                                                                                                                                                                                                                                    expression in Escherichia
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A;Accession: 156518; M(ID:95239150)
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-152 <RIZ>
                                                                        A; Molecule type: mRNA
A; Residues: 1-153 < MAE>
A; Cross-references: GB:J00264; NID:g186294; FIDN:AAD48509.1; PID:g5729676
A; Cross-references: tonsilar mononuclear cells
B; Devos, R:; Plaetinck, G.; Cheroutre, H.; Simons, G.; Degrave, W.; Tavernier, J.; S
Nucleic Acids Res: 11, 43107-4323, 1983
A; Title: Molecular cloning of human interleukin 2 cDNA and its expression in Escher.
A; Reference number: A93478; MUID:83246551
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A; Residues: 5-7, 'F', 9-17, 'P', 19-32, 'X', 34-45, 'X', 47-143 <RES>
A; Cross-references: GB: S77835; NID: 9999001; PIDN: AAD14264.1; PID: 94261964
R; Nishino, N.; Obaru, K.; Maeda, S.; Shimada, K.; Onoue, K.
Biomed, Ros. 6, 197-205, 1985
A; Title: Organization of the DNA regions flanking the human interleukin 2 gene.
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A;Molecule type: mRNA
A;Residues: 1-153 - 00Ev>
A;Cross-references: GB:V00564; NID:933780; PIDN:CAA23827.1; PID:933781
A;Experimental source: splenocytes
R;Extenberg, O.; Raber-Elman, A.; Lotan, M.; Schwartz, M.
J; Neurochem. 64, 1928-1936, 1995
J; Neurochem. 64, 1928-1936, 1995
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A;Accession: 173624
A;Status: preliminary; translated from GB/EMBL/DDBJ
    A;Reference number: A90113; MUID:84023840
A;Accession: A90113
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A; Residues: 21-153 <ROB>
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C;Species: Meriones unquiculatus (Mongollan jird)
C;Species: Meriones unquiculatus (Mongollan jird)
C;Accession: S33509
C;Accession: S33509
R;Mai, Z.: Klei, T.; Horohov, D.
R;Mai, Z.: Klei, T.; Horohov, D.
A;Description: Cross-species PCR cloning of Jird (Meriones unquiculatus) interleukly A;Accession: S33509
A;Accession: S33509
A;Stetus: preliminary
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C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S31391
R;Tavernor, A.S.; Butcher, G.W.
S;Davernor, A.S.; Butcher, G.W.
Submitted to the EMBL Data Library, November 1992
A;Description: cDNA cloning of equine interleukin-2 by polymerase chain reaction.
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C.Species 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C.Accession: $38662
R.Kinstad. E.
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A;Residuas: 1-155 cMAL:
A;Cross-references: EMBL:X68779; NID:9577588; PIDN:CAA48679.1; PID:9311638
C;Superfamily: interleukin-2
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                      Length 154;
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A;Description: The molecular cloning and expression of
A;Reference number: S38662
                      Score 96; DB 2; Ler
Pred. No. 6.6e-07;
4; Mismatches 6;
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Pred. No. 9.4e-07;
2; Mismatches 8;
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Best Local Similarity 56.7%; Pred. No. 2.5e-06;
Matches 17; Conservative 8; Mismatches 5;
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66.78;
                      Match 65.3%;
Local Similarity 66.7%;
tes 20; Conservative
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A; Accession: 531391
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Best Local Similarity
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A;Molecule type: mRNA
A;Residues: 1-149 <TAV>
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                      Query Match
Best Local S:
Matches 20
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A; Molecula type: mRNA
A; Molecula type: mRNA
A; Molecular type: mRNA
A; Cossidues: 1.154 (LEF>
A; Coss-references: EMBL; X88428; NID:92068; PIDN:CAA41330.1; PID:92069
C; Superfamily: interleukin-2
C; S
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NiAlternate names: IL-2; T-cell growth factor
C;Species: IL-2; T-cell growth factor
C;Species: Sus scrofa domestica (domestic pig)
C;Datc: 30-Jun-1992 #sequence.
C;Accession: S15241; S15473

R;Goodall, J.C.; Emery, D.C.; Balley, M.; English, L.S.; Hall, L.
Biochim. Biophys. Acta 1089, 257-258, 1991
A;Reference number: S16241; MUID:91274360
A;Accession: S16241
A;Molecule type: mRNA
A;M
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A;Accession: JN0698
A;Status: nucleid acid sequence not shown
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-154 <CO2>
A;Cross-references: GB:L19402; NID:g304313; PIDN:AAA02865.1; PID:g304314
C;Superfamily: interlebitin-2
C;Keywords: growth factor
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                                                                                                                                                                                                                                                                                                                                                                           Score 114; DB 2; Length 13-
Pred. No. 1.3e-09;
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66.7%; Pred. No. 4.7e-07;
iive 4; Mismatches 6.
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73.3%; Pred. No. 1...
5; Mismatches
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Matches 22; Conservative
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submitted to the EMBL Data Library, December 1989
A;Reference number: $21470
A;Accession: $21470
A;Accession: $21470
A;Molecule type: DNA
A;Residues: 1-22 <AN2>
A;Cross-references: EMBL:X17201; NID:g452; PIDN:CAA35062.1; PID:g453
C;Genetics:
A;Genetics:
A;Genetics:
C;Superfamily: interleukin-2
C;Superfamily: interleukin-2
C;Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-c
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A Molecule type: mRNA

A) Residues: 1-63 <MATE>

A) Residues: 1-63 <MATE>

A) Cross-references: EMBL.X66058; NID:952725; PIDN:CAA46854.1; PID:952726

R;Ghosh, S.; Palmer, S.M.; Rodrigues, N.R.; Cordell, H.J.; Hearne, C.M.; Cornall, R. Nature Genet. 4, 404-409, 1993

A) Title: Polygenic control of autoimmune diabetes in nonobese diabetic mice.

A) Rieterence number: $38162; MUID:94004970
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N;Alternate names: IL-2; T-cell growth factor (TCGF)
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 21-Jul-2000
C;Accession: A33550; A54490; A94064; I48597; A01850; I84713
R;Fuse, A.; Fujita, T.; Yasumitsu, H.; Kashima, N.; Hasegawa, K.; Taniguchi, T.
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C.Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C.Accession: S37289; S27205; S36162; S24936
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C; Superfamily: interleukin-2
C; Kayorda: cytokine, glycoprotein; growth factor; lymphokine; T-cell
E;1-20/Domain: signal sequence #status predicted <SIG>
F;21-63/Product: interleukin-2 #status predicted <MAT>
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R;Matesanz, F.; Alcina, A.; Pellicer, A.
Blochim. Blochiys. Acta 1132, 335-336, 1992
A;Title: A new CDNA sequence for the murine interleukin-2 gene. A;Reference number: S27205; MUID:93041941
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                                                                                                                                                                                                                                                                                                                   53.7%; Score 79; DB 2; I
llarity 53.3%; Pred. No. 0.00023;
Conservative 6; Mismatches 8;
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46.9%; Score 69; DB 2;
Best Local Similarity 47.2%; Pred. No. 0.008;
Matches 17; Conservative 6; Mismatches
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submitted to the EMBL Data Library, April 1993
A;Reference number: S37289
A;Accession: S37289
A;Status: preliminary
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es 16; Conserv
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A; Residues: 1-169 <TOD>
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A; Molecule type: mRNA
A; Residues: 1-50 <GHO>
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R;Scow, H.F.; Rothel, J. S.; Radford, A.J.; Wood, P.R.
Nucleic Acids Res. 18, 7175, 1990
A;Title: The molecular cloning of owine interleukin 2 gene by the polymerase chain react
A;Reference number: S13102; MUID:91088336
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C; Species: Bos primigenius taurus (cattle)
C; Species: 16-Aug-1996 #text_change 16-Jul-1999
C; Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 16-Jul-1999
C; Accession: 145913; S21470; S20761
R; Cerretti, D.P.; McKereghan, K.; Larsen, A.; Cantrell, M.A.; Anderson, D.; Gillis, S.; Proc. Natl. Acad. Sci. U.S.A. 83, 3223-3227, 1986
A; Title: Cloning, sequence, and expression of bovine interleukin 2.
A; Accession: 145913
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C.Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C.Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C.Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C.Saccession: S11488: S13102; S15517
Ricodali, J.C.; Emery, D.C.; Perry, A.C.F.; English, L.S.; Hall, L.
Nucleic Acids Res. 18, 5883, 1990
A;Title: CDNA cloning of ovine interleukin 2 by PCR.
A;Reference number: S11488; MUID:91016933
   A;Wolecule type: mRNA
A;Residues: 1-155 <RIM>
A;Rcoss-references: EMBL:X76063; NID:g416002; PIDN:CAA53664.1; PID:g416003
C;Superfamily: interleukin-2
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A.Koleule type: mRNA
A.Koleule type: mRNA
A.Koleule type: mRNA
A.Kossareferences: 1-5,'L',7-155 <-SEO>
A.Cross-references: EMBL:X55641; NID:g1810; PIDN:CAA39165.1; PID:g1811
A.Cross-references: EMBL:X55641; NID:g1810; PIDN:CAA39165.1; PID:g1811
A.Reference number: S1537
A.Reference number: S1537
A.Status: preliminary
A.Koleule type: mRNA
A.References: EMBL:X60148
A.References: EMBL:X60148
C.Superfamily: interleukin-2
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Pred. No. 0.00023;
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Pred. No. 0.00023;
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*Molecule type: mRNA
A;Residues: 1-155 <CER>
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nes 16; Conservative
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A; Molecule type: mRNA
A; Residues: 1-155 <GOO>
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Ciperions with a musculus (language)
Ciperion 10.4 Model (house mouse)
Ciperion 10.4 Model (house mouse)
Ciperion 10.4 Model (house mouse)
Ciperion 154512
Rivatesanz, F.; Alcina, A.; Pellicer, A.
Immunogenetics 38, 300-303, 1993
Affile: Existence of at least five interleukin-2 molecules in different mouse stra A; Reference number: 154512; MuID:93307791
A; Accession: 154512
A; Accessio
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C.Species: Mus musculus (house mouse)
C.Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C.Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C.Accession: 168871
R.Matcsanz, F.; Alcina, A.; Pellicer, A.
Immunogenetics 38, 300-303, 1993
A.Title: Existence of at least five interleukin-2 molecules in different mouse stra. A.Reference number: 154512; MuID:93307791
A.Reference number: 154512; MuID:93307791
A.Recession: 168871
A.Recelleutype: DNA
A.Residues: 1-72 < RES>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Cross references: GB: L07574; NID: 9349513; PIDN: AAA39326.1; PID: 9349514 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A:Cross-references: GB:L07576; NID:9349517; PIDN:AAA39328.1; PID:9349518
C:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
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Pred. No. 0.094;
6; Mismatches 5;
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Pred. No. 0.16;
5; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTSSST-----KKTQLQLEHLLLDLQMILN 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----KKTQLQLEHLLLDLQMILN 26
                                                                              25 SPTSSSTSSSTAEAQQQQQHLEQLLMDLQELLS 57
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Job time : 19 secs
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ilarity 35.6%;
Conservative
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Best Local Similarity 42.99
Matches 15; Conservative
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C;Superfamily: interleukin-2
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C;Superfamily: interleukin-2
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R.Kashima, N.; Nishi-Takaoka, C.; Fujita, T.; Taki, S.; Yamada, G.; Hamuro, J.; Taniguch
R.Kashima, N.; Nishi-Takaoka, C.; Fujita, T.; Taki, S.; Yamada, G.; Hamuro, J.; Taniguch
R.Yatile: Unique structure of murine interleukin-2 as deduced from cloned cDNAs.
A;Reference number: 148597; MUID:85111148
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-169 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M16760
R;Yokota, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
R;Yokota, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
Proc. Natl. Acad. Sci. U.S.A. 82, 68-72, 1985
A;Title: Use of a cDNA expression vector for isolation of mouse interleukin 2 cDNA clone A;Reference number: A94064; MUID:85113172
A;Accession: A94064
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A introns: 63/3; 83/3; 132/3
G. Superfanily: interleukin-2
G. Superfanily: interleukin-2
G. Superfanily: interleukin-3
G. Superfanily: interleukin-3
G. Superfanily: interleukin-3
F. 1-20/Domain: signal sequence #status predicted <SIG>
F. 1-20/Domain: signal sequence #status predicted <SIG>
F. 20/Domain: signal sequence #status predicted <MNT>
F. 21-80/Product: interleukin-2 #status predicted <MNT>
F. 23/Binding site: carbohydrate (Th) (covalent) #status predicted
F. 92-140/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Accession: 168870
R; Matesanz, F.; Alcina, A.; Pellicer, A.
Immunogenetics 38, 300-303, 1993
A; Title: Existence of at least five interleukin-2 molecules in different mouse strains. A; Reference number: 154512; MUD: 93307791
                                                                                                                                            A; Wolecule type: DNA
A; Residues: 1-169 (-FUS>
R; Degrave, W.: Simons, G.; Devos, R.; Plaetinck, G.; Remaut, E.; Tavernier, J.; Fiers,
Mol. Biol. Rep. 11, 57-61, 1986
A; Title: Cloning and structure of a mouse interleukin-2 chromosomal gene.
A; Reference number: A54490; MUID:86118396
A; Recession: A54490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A:Cross-references: EMBL:X01772; GB:K02797; NID:952663; PIDN:CAA25909.1; PID:9758159 C:Comment: Produced by T-cells in response to antigenic or mitogenic stimulation, this C:Genetics:
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C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
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                                 A;Title: Organization and structure of the mouse interleukin-2 gene. A;Reference number: A93550; MUID:85087940
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Pred. No. 0.064;
6; Mismatches 5;
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A:Molecule type: DNA
A;Residues: 1-60 <RES>
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38.6%; Pred. No. 0.044;
Live 6; Mismatches
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Res. 12, 9323-9331, 1984
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Best Local Similarity 45.5%;
Matches 15; Conservative
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C;Superfamily: interleukin-2
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A; Residues: 1-169 <DEG>
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October 21, 2002, 09:46:41; Search time 30 Seconds (without alignments) 111.074 Million cell updates/sec
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
                                                                              - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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147
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Perfect score:
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A. Geneseq 032802:*	1: /SIDS1/qcqdata/geneseq/genesegp-embl/AA1980.DAT:*	2: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*	3: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*	4: /SIDS1/qcqdata/qeneseq/qeneseqp-emb1/AA1983.DAT:*	5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*	6: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1985.DAT:*	7: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1986.DAT:*	8: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1987.DAT:*	9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT:*	10: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1989.DAT:*	11: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1990.DAT:*	12: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT:*	13: /SIDS1/gcgdata/geneseq/geneseqp-emb1/Aa1992.DAT:*	14: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1993.DAT:*	15: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1994.DAT:*	<pre>16: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:*</pre>	17: /SIDS1/gcgdata/geneseg/genesegp-emb1/AA1996.DAT:*	18: /SIDS1/gcgdata/geneseg/genesegp-embl/AA1997.DAT:*	19: /SIDS1/gcgdata/geneseg/genesegp-embl/Aa1998.DAT:*	20: /SIDS1/gcgdata/geneseg/genesegp-embl/AA1999.DAT:*	<pre>21: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:*</pre>	27: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
se:																						

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

### Human IL-2 derived Human IL-2 derived Human interleukin-Human IL-2 N-termi Description AAY51598 AAX1015 AAR11015 AAR12015 AAR48245 AAR95433 AAR95433 AAR78662 AAR78662 AAR78662 AAR78662 AAR78662 ΙD Query Match Length DB 30 31 31 58 60 60 60 60 96 96 120 120 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 100.0 Score 1147 11447 11447 11477 11477 11477

Result õ disorders

Fusion protein con Sequence of interl Interleukin-2 muta Interleukin-2 muta

Human Interleukin-Interleukin-2 ALPH

Human pro-insulin

Interleukin-2 muta	Interleukin-2 muta	Sequence of interl	Sequence of human	Interleukin-2 muta	Interleukin-2 muta	Interleukin-2 muta	n-2		of	ot		of	of	of	jo	ot	0	c	Oxidation resistan			Oxidation resistan	Oxidation resistan	Sequence of interl	Antigenic fragment	Plasmid piror135-8	Sequence of non-gl	Sednence encoded p	Ē	~	Interleukin 2 alal	Human interleukin-	Recombinant human	
AAR10908	AAR10907	AAP30044	AAP50217	AAR10901	AAR10902	AAR10903	AAR10904	AAP40048	AAP40044	AAP50163	AAP50857	AAP50858	AAP50859	AAP50860	AAP50861	AAP50862	AAP50863	AAP60833	AAP60834	AAP60835	AAP60836	AAP60837	AAP60838	AAP61100	AAP61651	AAP61725	AAP60220	AAP61783	AAP70495	AAP80128	AAP80129	AAP91923	AAR00593	ALTGNMENTS
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129	130	131	131	132	132	132	132	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	4	147	
12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

### ALIGNMENTS

AAY51598 standard; Protein; 30 AA.

RESULT 1

AAY51598

AAY51598;

IL-2; interleukin 2; human; IP130; immunosuppressive; antirheumatic; graft rejection; autoimmune disorder; rheumatoid arthritis. Novel cytokine peptides and antibody for preventing and/or treating undesirable immune reactions e.g. graft rejection and autoimmune Alzari P; Rose T, Goldberg M, Human IL-2 derived peptide IP130 #2. Moreau J, 99WO-IB01424. 98US-0116594. (first entry) Theze J, Eckenberg R, Mazie J; (INSP ) INST PASTEUR. WPI; 2000-182403/16. N-PSDB; AAZ88838. WO200004048-A1. Homo sapiens. 16-JUL-1998; 16-JUL-1999; 25-MAY-2000 27-JAN-2000. 

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1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1991-075192/11.
                                                                                                                                                                           Query Match
Best Local Similarity
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Matches 30; Conserv
                                                                                                                                                    31 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAQ10898
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                         13-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-MAR-1991
                                                                                                                                                                                                       30;
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                                                                                                                                                                                                                                                                                                                                                AAR11015;
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                                                                                                                                                      Sequence
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                                 This invention describes a novel a peptide, IP130 having 31 (1) or 30 (II) amino acid sequence or its homologous sequence (H) exhibiting the same activity or binding characteristic. The products of the invention have immunosuppressive and antirheumatic activity. (I) or (II) is used for preparing medicament useful to induce IL-2 activity. (A) or a peptide binding to it is used for inhibiting the activity of IL-2R in treating conditions related with undesirable immune reactions like graft rejection, and autoimmune disorders like rheumatoid arthritis. It is also used for immunoaffinity purification of native or recombinant IL-2
                                                                                                                                                  peptides. (V) is also used for preparing medicaments in treating patients with deficient IL-2 activity. (III) used to prepare antisense oligonucleotides and ribozymes modulating the expression of IL-2 which can be used in gene therapy applications. The peptides inhibits or mimics the binding of helix A of IL-2 to a subunit of an IL-2R and thus produces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This invention describes a novel a peptide, IP130 having 31 (I) or 30 (II) amino acid sequence or its homologous sequence (H) exhibiting the same activity or binding characteristic. The products of the invention have immunosuppressive and antirhematic activity, (I) or (II) is used for preparing medicament useful to induce IL-2 activity. (A) or a peptide
                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IL-2; interleukin 2; human; IP130; immunosuppressive; antirheumatic;
graft rejection; autoimmune disorder; rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel cytokine peptides and antibody for preventing and/or treating undesirable immune reactions e.g. graft rejection and autoimmune
                                                                                                                                                                                                                 a specific interaction. This sequence represents an IP130 peptide described in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alzari
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0
                                                                                                                                                                                                                                                                                   Length 30;
                                                                                                                                                                                                                                                                                                           Indels
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                                                                                                                                                                                                                                                                                   DB 21;
                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                  100.0%; Score 147; DB 21; 100.0%; Pred. No. 1.1e-13;
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                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                     1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                   1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human IL-2 derived peptide IP130 #1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 54; 56pp; English.
            Claim 1; Page 55; 56pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                           AAY51597 standard; Protein; 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0116594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-IB01424
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                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eckenberg R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INSP ) INST PASTEUR
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                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                         30 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Theze J,
Mazie J;
                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                   Query Match
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binding to it is used for inhibiting the activity of IL-2R in treating conditions related with undesirable immune reactions like graft respection, and autoimmune disorders like rheumatoid arthritis. It is also used for immunoaffinity purification of native or recombinant IL-2 peptides. (V) is also used for preparing medicaments in treating patients with deficient IL-2 activity. (III) used to prepare antisense oligonuclectides and ribozymes modulating the expression of IL-2 which the binding of helix A of IL-2 to a subunit of an IL-2R and thus produces a specific interaction. This sequence represents an IP130 peptide described in the method of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Method for expressing heterologous proteins - as fusion protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RE, Rodriquez Reinoso
Herrera Martinez LS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .nterleukin-2; IL-2; gag 24; gp 41; gp 36; HIV detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 147; DB 12;
llarity 100.0%; Pred. No. 2.2e-13;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 147; DB 21; 100.0%; Pred. No. 1.1e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human interleukin-2-derived stabiliser peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       using vector contg. stabilising sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APTSSSTKKTQLQLEHLLLDLQMILNGINN
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Benitez Fuentes JV, Narciandi Diaz
Estrada Garcia MP, García Suarez J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 2; Page 10; 18pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR11015 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89CU-0000149
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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Resonances between coding and non-coding regions were measured for the native human 1L-2 gene in plasmid pT911 (see AA055630) and a synthetic IL-2 gene (AA055639) in which alternative, degenerate codons were used in order to introduce additional restriction sites. It was found that the degenerate changes greatly upset the "natural order" between coding and non-coding regions; as a result, the amount of protein expressed by the degenerate gene is likely to be adversely affected. The inventors have proposed an "optimised" int. 2 gene with the aim of increasing the amount of protein expressed by the gene. (N.B. the sequence is also described as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Targetted hetero-association of recombinant proteins to \verb|multi-functiona|| complexes - useful for therapeutic and diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Multifunctional protein; targetted hetero-association; protein assembly; antibody engineering; interleukin-2; IL-2; cytokine; tumour; therapy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 60;
                                                                                                                                                                                                   Application of optimised gene expression - for scientific, industrial and therapeutic purposes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 147; DB 15; 100.0%; Pred. No. 2.3e-13;
                                                                                                                                                                                                                                                  Disclosure; Fig 28 and Fig 29; 110pp; French.
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                     92FR-0007571
                                                      92FR-0007571.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Interleukin-2 ALPHA segment.
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                                                                                                                                                                    N-PSDB; AAQ55629, AAQ55630.
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                                                                                                                                                    WPI; 1994-028256/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1996-239496/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pack P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAT15267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  interleukin-6).
                                                                                      (PERE/) PEREZ
                     22-JUN-1992;
                                                      22-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9613583-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-SEP-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lupas A,
                                                                                                                      Perez J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunoprotein MPB 70 encoding sequence may be encorporated into plasmid pT135 with an N-terminal fragment of human IL-2. The plasmid may be used to transform an expression system giving a fusion protein which may be used as a diagnostic agent for bovine tuberculosis infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      non-coding region; coding region; resonance; interaction; IL-2; optimisation; degenerate sequence; plasmid pT13SNco; pT9-11; gene expression; regulation; recombinant protein production; interleukin-2; interleukin-6.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 60;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BCG bacteria delived immuno:protein MPB70 - can be used diagnostic agent used to determine bovine tuberculosis.
                                                                                                                                                                                                                           Bovine tuberculosis; Interleukin-2; IL-2; plasmid pT13S
                                                                                                                                                                                          Human IL-2 N-terminal transcript of plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 147; DB 11;
100.0%; Pred. No. 2.3e-13;
Live 0; Mismatches 0;
2 APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; F1g 2; 11pp; Japanese
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                                                                                             AAR06838 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                         89JP-0013270.
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                                                                                                                                                            14-JAN-1991 (first entry)
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Matches 30; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1990-278851/37.
                                                                                                                                                                                                                                                             Mycobacterium bovis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; AAQ05976.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60 AA;
                                                                                                                                                                                                                                                                                         JP02195895-A
                                                                                                                                                                                                                                                                                                                                                                                           24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                           24-JAN-1989;
                                                                                                                                                                                                                                                                                                                           02-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FR2692594-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-DEC-1993
                                                                                                                            AAR06838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR48245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ношо
                                                              RESULT 4
AAR06838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
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Gaps

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Gaps

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96;

Length Indels

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Isolation of insulin that is correctly post-translationally processed - by reacting pro:insulin with a mercapten in the presence of a chactropic agent and purifice, after absorption to hydrophobic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence is that of a fusion protein, produced in E.coll which contains an example of a prolisalin molecule corresp.

to the general formula R2-R1-(82-829)-rx-G1y-(A2-A20)-R3 (I). In formula (II), X = Lys, Arg or a peptide of 2-35 anino acids conty. In yo or Arg at the N- and C-termini; Y = a natural amino acid; R1 - Phe or a bond; R2 = H, Arg, Lys, a peptide of 2-45 amino acids; R1 - Phe or a bond; R2 = H, Arg, Lys, a peptide of 2-45 amino acids conty. Arg or Lys at the N- and C-termini; R3 - a natural amino acid; (R2-R2) and (R2-B2) are the insulin A- and B-Chain sequences from human or other insulin. The proinsulin molecule, released by cyanogen bromide, is reacted with mercaptan at a ratio of 2-10 SH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 post-translational modification; recombinant production;
  of insulin chain A, B and C are given in AAK68895-97 of pro-insulin 1-4 are given in AAK68898-901.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "a peptide of 4 amino acids"
                                                                                                                      100.0%; Score 147; DB 15;
100.0%; Pred. No. 3.8e-13;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "human insulin B-chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note- "human insulin A-chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusion protein contg. proinsulin sequence 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sabel W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76..96
/label= Gly-(A2-A20)-R3
                                                                                                                                                                                                                     1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                               31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "a peptide of 4
45..74
/label- R1-(B2-B29)-Y
                                                                                                                                                                                                                                               2 APTSSSTKKTQLQLEHLLLDLQMILNGINN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                           Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Obermeier R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 2; Page 8; 16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                        AAR78662 standard; protein; 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein folding; conformation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95EP-0101748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94DE-4405179.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R_2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-APR-1996 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label- x
                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41..44
/label= F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1995-284754/38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ludwig J,
                                                                                                                                           Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (FARH ) HOECHST AG
                                                                         96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-FEB-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proinsulin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-AUG-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EP668292-A2
     Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR78662;
                                                                            Sequence
                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gerl M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
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                                                                                                                                                                                                                                                                                                                                         RESULT 8
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     SXSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                        A PART OF THE PROPERTY OF THE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                              the targetted hetero-association of recombinant proteins. The TL-2 is segmented between His79 and Lys80 to form ALPHA (AR895433) and BETA (AAR89444) segments encoded by MroI-AscI-HindIII gene cassettes (AAT15267 and AAT15268, respectively). The device combines the low function of the plasmatic protein with a preferable effector segmental cysteine bridge (Cys58-Cys105) after assembly. The combination of 1 or more antibody framements assembly. The combinational cytokines, e.g. IL-6 or IL-12, targets the multi-cytokine complex directly to the tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                         Human interleukin-2 (IL-2) can be used as an assembly device for the targetted hetero-association of recombinant proteins. The IL-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pro-insulin is produced by treating recombinant precursor protein with a mercaptan to provide 2-10 SH residues per Cys residue, in presence of a chaotropic agent and in aq. medium of pH 10-11, treating the prod. with 3-50 g hydrophobic adsorber resin per 1 aq. medium of pH 4-7. isolating the adsorbed resin and pro-insulin and desorbing the pro-insulin. This method produces pro-insulin with correctly bonded Cys bridges. Compared with known methods it involves fewer stages (esp. no sulphitolysis or cyanogen bromide cleavage) and overall losses during purification are reduced, i.e. the process is quicker and gives better yields.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Prodn. of pro-insulin with correct disulphide bridges - by treating recombinant precursor protein with mercaptan in alkali and in presence of chaotropic agent, then isolation on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pro-insulin; A-chain; B-chain; C-chain; disulphide; mercaptan; chaotropic agent.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match 100.0%; Score 147; DB 17;
Best Local Similarity 100.0%; Pred. No. 3.4e-13;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 APTSSSTKKTQLQLEHLLLDLQMILNGINN 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 11; 15pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ę
                                               Example 3; Fig 13; 34pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Obermeier R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR68899 standard; peptide; 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93EP-0118993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92DE-4240420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-MAR-1995 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human pro-insulin 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1994-177718/22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ludwig J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FARH ) HOECHST AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hydrophobic resin
                                                                                                                                                                                                                                                                                                                                                                                      88 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-NOV-1993;
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                                                                                                                                                                                                                                                                                                                                                                                        Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR68899
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In this mutant IL-2 Gln(74), Ser(75), Lys(76), Asn(77) and Phe(78) have been deleted. The mutant IL-2 may be covalently linked to a portion of a toxin molecule og diphtheria, which is large enough to have cytotcxic activity but small enough not to exhibit general eukaryotic cell binding. The IL-2/toxin hybrid can be used to treat immune disorders involving the IL-2 receptor. The mutant IL-2 on its see also AAQ1075-9, AAQ10781-Q10782.
                                                                                                                                                                                                                                                                  Mutant interleukin -2 molecules binding to interleukin-2 receptor - linked with diphtheria toxin to treat eg interleukin-2 receptor positive malignancies or prevent graft resection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 147; DB 12;
ilarity 100.0%; Pred. No. 5.2e-13;
Conservative 0; Mismatches 0;
      Interleukin-2 mutant psI 141 (delta74-78).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interleukin-2 mutant psI 143 (delta75-77).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                             interleukin-2; IL-2; immunostimulant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      interleukin-2; IL-2; immunostimulant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR10905 standard; Protein; 129
                                                                                                                                                                                                                                                                                                                    Claim 2; Page 9; 17pp; English.
                                                                                                                                                       89US-0388557.
                                                                                                                               90WO-US04258
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                                                                                                                                                                                                      Genbauffe FS, Akiyoshi
                                                                                                                                                                                                                             WPI; 1991-073489/10.
N-PSDB; AAQ10780.
                                                                                                                                                                               (SERA-) SERAGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (SERA-) SERAGEN INC.
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Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                          128
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                                                                                                                             30-JUL-1990;
                                                                                                                                                      02-AUG-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-JUL-1990;
                                                                             WO9102000-A
                                                                                                     21-FEB-1991
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                                                       Synthetic.
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                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
residues of mercaptan per Cys residue of proinsulin. The reaction takes place in the presence of a chaotropic auxiliary agent at pH 10-11 and results in proinsulin with correctly linked cystine bridges. Reaction with trypsin and opt. carboxypeptidase B yields correctly folded insulin. The insulin is isolated by absortion on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene for the prodn. of IL-2 and IL-2 and iL-2 and snalogues, and for
                                                                                                                                                                                                                                                                                                                                                  Immunotherapy; lymphokine; interleukin-2; thymocyte mitogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  by using
                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                           Sequence of interleukin II (IL-2) analogue 341 [Stop121] IL-II.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 120;
                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Microbial expression of interleukin II and analogues -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            manufactured DNA sequences to transform microorganisms
                                                                                                            100.0%; Score 147; DB 16;
100.0%; Pred. No. 3.8e-13;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 147; DB 6;
100.0%; Pred. No. 4.8e-13;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The inventors claim a manufactured gene for analogues, and for polypeptides of IL-2 and methods for their recombinant production.
                                                                                                                                                              APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                           2 APTSSTKKTQLQLEHLLLDLQMILNGINN 31
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                                                                                                                                                                                                                                                AAP50864 standard; Protein; 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein; 128
                                                                                                                                                                                                                                                                                                                                                                                                                            84WO-US01252
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83US-0521967
                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Souza LM, Stabinsky Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1985-062280/10.
                                                               a hydrophobic resin
                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR10906 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 AA;
                                                                                     96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (AMGE-) AMGEN
                                                                                                                                                                                                                                                                                                                                                                                                                           09-AUG-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-AUG-1984;
10-AUG-1983;
                                                                                                                                                                                                                                                                                                    01-DEC-1991
                                                                                                                                                                                                                                                                                                                                                                            WO8500817-A
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                                                                                                                                                                                                                                                                          AAP50864:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                      Sequence
                                                                                                              Query Match
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                                                                                                                         Best Loc
Matches
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ID AAR1
XX
AC AAR1
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Length 128; Indels

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mutant interleukin -2 molecules binding to interleukin-2 receptor - linked with diphtheria toxin to treat eg interleukin-2 receptor positive malignancies or prevent graft resection
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                                       Indels
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; DB 12;
5.2e-13;
nes 0;
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100.0%; Pred. No. 5.3e-13;
ive 0; Mismatches 0;
                                       Mismatches
                                                                                                                                                                                                                                                                                                                            Interleukin-2 mutant psI 145 (delta76-78).
  Score 147;
Pred. No. 5
                                                                                                1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                           1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                               interleukin-2; IL-2; immunostimulant.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ä
                                                                                                                                                                                                               AAR10907 standard; Protein; 130
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  100.0%;
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                                                                                                                                                                                                                                                                                        (first entry)
                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genbauffe FS, Akiyoshi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1991-073489/10.
N-PSDB; AAQ10781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SERA-) SERAGEN INC.
                Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9102000-A.
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                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
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    Query Match
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                                                                                                                                                                   Ser(75), Lys(76) and Asn(77) have been deleted, as has His(79). The mutant Li-2 may be covalently linked to a portion of a toxin molecule eg diphtheria, which is large enough to have cytotoxic activity but small enough not to exhibit general enkaryotic cell binding. The II-2 /toxin hybrid can be used to treat immune disorders involving the II-2 receptor. The mutant IL-2 on its own be used as an immunostimulant. See also AAQ10778-8, AAQ10780-Q10782.
                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                    Mutant interleukin -2 molecules binding to interleukin-2 receptor - linked with diphtheria toxin to treat eg interleukin-2 receptor positive malignancies or prevent graft resection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lys(76), Asn(77), Phe(78) and His(79) have been deleted. The mutan ILL-2 may be covalently linked to a portion of a toxin molecule eq diphtheria, which is large enough to have cytotoxic activity but small enough not to exhibit general eukaryotic cell binding The IL-2/CAXIn hybrid can be used to treat immune disorders involving the IL-2 receptor. The mutant IL-2 on its own can be used as an immunestimulant. See also AAQ10775-Q10781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mutant interleukin -2 molecules binding to interleukin-2 receptor - linked with diphtheria toxin to treat eg interleukin-2 receptor positive malignancies or prevent graft resection
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                                                                                                                                                                                                                                                                                                                                                             Length 129;
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                                                                                                                                                                                                                                                                                                                                                             Query Match 100.0%; Score 147; DB 12;
Best Local Similarity 100.0%; Pred. No. 5.2e-13;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Interleukin-2 mutant psI 150 (delta76-79).
                                                                                                                                                                                                                                                                                                                                                                                                                                        1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interleukin-2; IL-2; immunostimulant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR10908 standard; Protein; 129 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4; Page 9; 17pp; English.
                                                                                                                                 Claim 7; Page 9; 17pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Akiyoshi D;
WPI; 1991-073489/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SERA-) SERAGEN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1991-073489/10.
                                                                                                                                                                                                                                                                                                                         129 AA;
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                    N-PSDB; AAQ10779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAQ10782
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-AUG-1989;
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                                                                                                                                                                                                                                                                                                                            Sequence
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Sano K;

Sato T,

Hamuro J,

us-09-720-828a-4.rag

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The IL-2 gene of the invention is prepd. with RNA produced by an IL-2 producing mammalian cell, e.g. a human T-lymphocyte, transformed human T-lymphocyte or T-cell hybridoma. The mRNA is obtainable as a sediment of IL-125 of sucrose density gradient centrifugation. The N-terminal region of the deduced IL-2 polypeptide is quite hydrophobic and this region probably serves as a signal peptide which is cleaved during the secretion process of the mature IL-2. Such cleavege occurs either between Ser and Ala at position and all and pro at position 21 and 22 respectively (see AAP50215, p50216), forming the polypeptide having AA sequences II and III (see AAP50217, P50218).
                                                                                                                 Prodn. of interleukin-2 polypeptide - by cultivation of Saccharomyces cerevisiae transformed with gene and vector DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Search completed: October 21, 2002, 09:48:44 Job time : 30 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 APTSSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 APTSSTKKTQLQLEHLLLDLQMILNGINN 30
                                                                                                                                                             Disclosure; Fig 2b; 48pp; English
 (NICA-) JAPANESE FOUND CANCER RE. (GANK-) GAN KENKYUKAI ZH.
                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.0
Matches 30; Conservative
                                           Taniguchí T, Matsui H,
                                                                       WPI; 1985-124043/21.
N-PSDB; AAN50219.
                                                                                                                                                                                                                                                                                                                                                                    131 AA;
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T-cell growth factor; mitogen; antitumour; lymphokine; T-limphokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence of human interleukin-2 (IL-2) mature protein, sequence II.
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thymocyte mitogenesis; cytotoxic T cell reactivity.
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                                                                                                                                                                                                                                                                                                                                                                                                            Cloned gene coded for interleukin-2 poly:peptide - useful in prodn. of stable interleukin-2 prod.
                                                                                                                                                                                                                                                                                                                                      Kashima N;
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Best Local Similarity 100.0%; Pred. No. 5.3e-13;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                      Matsui H,
                             Escherichia coli x 1776/ptt 2-50A FERM BP-226
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAP50217 standard; Protein; 131 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Fig 2b; 82pp; English.
                                                                                                                                                                                                                                                                            (AJIN ) AJINOMOTO KK.
(NICA-) JAPAN FOUND CANCER RES.
(GANK-) ZH GAN KENKYUKAI.
                                                                                                                                          82JP-0230371.
82JP-0051122.
82JP-012518.
82JP-0219518.
82JP-0229619.
82JP-0234607.
82JP-0234607.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           131 AA;
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18-MAY-1982;
15-DEC-1982;
24-DEC-1982;
27-DEC-1982;
03-FEB-1983;
29-DEC-1982;
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                                                                                      19-OCT-1983
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                                                        EP91539-A.
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Length 131; Indels

100.0%; Score 147; DB 6; 100.0%; Pred. No. 5.3e-13; ive 0; Mismatches 0;

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